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1. Executive Summary

It can be concluded that when the current WA Rail Safety Act, 1998 (the Act) was enacted and implemented it was a reflection of best practice in Australia at the time. Those administering the development of the current Act worked collaboratively with other states and benefited from the lessons learnt by the governments of NSW, Qld, Vic and SA who had already implemented rail safety legislation.

With regard to operational effectiveness of administering the Act, it can be concluded that, in overall terms, rail safety performance in WA is generally sound and often commendable. There have been no passenger deaths as a result of train operation for five years, an achievement rail users should justifiably be proud of. Public safety performance is an area where opportunities for improvement exist, particularly at level crossings.

It is a noteworthy achievement that the current administrators of the Act are held in high regard by the key stakeholders affected by rail safety legislation. They are perceived to operate openly and ethically. In essence, the railway industry generally feels they are involved in rail safety regulation and listened to.

Ironically, despite feeling listened to, the views of stakeholders regarding regulation are vast and divergent. Some stakeholders want total prescription whilst others want regulation to be in the form of a performance framework to operate within. A key area of concern is the prescribed use of Australian Standard AS4292, Railway Safety Management, as a basis of developing management systems. This is because the standard is perceived as being a general standard written for the large public railways with their multitude of traffic diversity and complex interfaces. The standard is perceived as being too onerous for the heritage type railways and too prescriptive for the major heavy-haul railways that are basically a specialised and segregated system that doesn't interface with other users.

The current philosophy of accrediting railway owners and railway operators is generally supported as being the most appropriate model for regulating the industry. The model used in NSW where designers, maintainers and other contractors can also be accredited is seen as a blurring of accountability and should be avoided in WA. There are some views that the term railway owner causes confusion especially where the asset may be owned by a financial institution or government owned corridor. As an alternative the term railway manager might better reflect intent, however this does not change the principle of accreditation.

With regard to heritage railways, they perceive they provide a valuable community service and help preserve the nation's heritage. The smaller ones generally depend upon volunteer support for their existence. It is entirely conceivable that the effort involved in complying with the requirements of the Act and prescribed standards is counter-productive and that scarce resources (human and monetary) are possibly being diverted from essential maintenance and operating activities to fund compliance requirements. Additionally, it should be noted that the industry is developing a range of new standards such as medical fitness and alcohol and drug testing, these standards, if prescribed, will impose an even greater burden. The current Act also requires the payment of accreditation fees, which maybe considered minor in absolute terms, but are substantial relative to revenue.

In recent years and, since the introduction of the current Act, societal perception of rail safety regulation has changed. Most of the change in perception followed the major train accidents in New South Wales at Glenbrook in 1999 and Waterfall in 2001 where the judiciary severely challenged the NSW regulatory model. In responding to those concerns there has recently been substantial change to NSW rail safety legislation and, the current NSW legislation, is considered to be substantially different from the current Australian norm and a reflection of contemporary practice. Accordingly, the latest NSW legislation was used considerably for benchmarking purposes during the independent review and some of the recommendations follow the NSW model.

The review found one significant deficiency in the current Act and highlighted a number of issues where the Act could be improved by clarifying or qualifying of intent of the Act. The significant issue in the WA Act (and with all other state's Rail Safety Acts) is that unlike Occupational Safety and Health legislation, they fail to enshrine a legal obligation to be safe. OSH legislation generally requires organisations to ensure the safety of employees and others (passengers and public). A death or serious injury means that an employer has failed to ensure the safety of an employee or other person and in doing so is in legal breach. Lack of an enshrined duty to ensure rail safety means that should several deaths occur as a result of a train collision no legal breach has occurred.

The key opportunities to improve the Act relate to enshrining an additional duty to ensure rail safety, defining the term safety and specifically including security, assigning greater accountability, interface management, adopting Occupational Safety and Health (OSH) principles and establishing an intelligent risk framework that drives continuous improvements.

A total of thirty two (32) recommendations are made.

2. Terms of Reference

The terms of reference for the review were determined by The Department for Planning and Infrastructure (DPI) and were outlined in their Public Request For Tender for Consultancy Service to Review Rail Safety Act 1998 (WA) -Tender No. 0142/04.

The Risk & Safety Consultancy Group were the successful tenderer and were awarded the contract to perform an independent review as outlined in the contract acceptance letter issued by DPI, dated 8 July 2004.

2.1 Task

DPI required the consultancy service to:

- Conduct, for the purposes of complying with section 63 of the Rail Safety Act 1998 (WA) ("the Act"), a review of the Act;
- Compile the review findings; and
- Make appropriate recommendations arising from the review findings.

2.2 Introduction and Scope

The current Act took effect 3 February 1999.

Section 63 of the Act requires that a review of the operation and effectiveness of the Act be carried out not later than 6 months after the 5-year anniversary of the commencement of operation of the Act.

The review of the operation and effectiveness of the Act was undertaken by comparative assessment of the approach taken and methodologies used by the Western Australian government in regulating "Rail Safety" when compared to other Australian states and the United Kingdom.

The UK model was used in preference to other countries because their legislation requires a "safety case" approach, similar to the accreditation model used in Australia and because their regulatory model is acknowledged within the rail industry as good practice.

Generally, evaluations were restricted to matters of significance. For example, there are literally hundreds of minor differences between the respective Australian states' legislation but most of those differences are not materially significant, for example:

- Some states refer to a railway owner and others refer to a railway manager;
- The Victorian definition of rail infrastructure includes a tram stop reflecting their tramway system which other states don't have; and
- Some legislation uses the term Director General as opposed to Chief Executive or Secretary.

Accordingly, the review concentrated on key issues such as highlighting:

- The new approach taken in NSW of applying OSH principles e.g. introducing improvement and prohibition notices;
- Mandating hours of work; and
- Expanding rail safety to include security.

Matters of significance were determined either by:

- Using professional judgement and experience to identify best practice and gaps in current legislation;
- Considering matters raised by stakeholders; and
- Risk Assessment.

The review did not generally cover administrative matters such as accreditation fees or departmental resource capability in administering the Act as these subject matters, although pertinent, were outside the intent and scope of the review.

3. Methodology

The independent review was undertaken by Mr Kevin Band, Managing Director, Risk & Safety Consultancy Group and Mr Garry Marling, Principal, Marling Group.

The independent consultants received guidance and direction from a steering committee appointed by DPI. The steering committee members were:

- Rebecca Neilson, Director Legislative & Legal Services, DPI
- Rob Burrows, Director Office of Rail Safety, DPI
- Paul Joyce, Principal Policy Officer, Minister's Office

The review was predominantly conducted by:

- Identifying gaps and weaknesses in the operation and effectiveness of the current Act;
- Identifying best practice; and
- Undertaking a strategic risk assessment.

With regard to identifying gaps and weaknesses in the operation and effectiveness of the current Act this was achieved by:

- Holding meetings to identify key issues and concerns raised by staff from the Office of Rail Safety and key stakeholders;
- Considering key findings from the Waterfall (NSW) and Glenbrook (NSW) Special Commissions of Inquiry;
- Evaluating current safety performance;
- Reviewing a sample range of current accredited safety management plans; and
- Reviewing a sample range of annual safety reports.

With regard to identifying best practice this was achieved by identifying key gaps or differences between the current Act and Rail Safety Regulations (the Regulations) and other legislation, standards, codes and guidelines. The other legislation and documentation considered was:

- Australian Standards
 - AS4360 Risk Management
 - AS4292 Rail Safety Management
 - AS61508 Functional safety of electrical/electronic/programmable electronic safety-related systems. Part 5 only - Examples of methods for the determination of safety integrity levels

- United Kingdom
 - Railways (Safety Case) Regulations, 1994 replaced 2000;
 - Railways (Safety Critical Work) Regulations, 1994;

- New South Wales
 - Rail Safety Act, 2002;
 - Transport Administration Amendment (Rail Agencies) Act, 2003;
 - Rail Safety (Drugs and Alcohol Testing) Regulations; 2003;
 - Rail Safety (General) Regulations, 2003;
 - Transport Legislation Amendment (Safety & Reliability) Act, 2003;
 - Transport Administration Act, 1988;
 - Rail Safety Act 2002 Compliance & Enforcement Policy;
 - Guidelines for Certification of Competency;
 - Guidelines relating to Drug & Alcohol Programs;
 - Guidelines relating to Management of Fatigue;

- Queensland
 - Transport Infrastructure Act, 1994, as amended in 1995;
 - Transport Infrastructure (Rail) Regulation, 1996
 - Transport Operations (Passenger Transport) Act; 1994;
 - Transport Operations (Passenger Transport) Regulation; 1994

- South Australia
 - Rail Safety Act 1996;

- Victoria
 - Transport (Rail Safety) Act 1996;
 - Issues Paper for a review of the Rail Safety Regulatory Framework

- Tasmania
 - Rail Safety Act 1997;
 - Draft "Risk tolerability Framework", 2004;
 - Draft "Strategic Rail Safety Plan" 2004;

- Northern Territory
 - Rail Safety Act, 2001;

- Western Australia
 - Occupational Safety and Health Act 1984; and

- Draft National Rail Safety Accreditation Package.

With regard to undertaking a strategic risk assessment this was achieved by:

- Identifying inherent risks associated with the administration of rail safety risks to regulator and government associated with current legislation or gaps in current legislation;
- Considering the risk associated by issues raised at stakeholder meetings and workshops; and
- Evaluating the likelihood and consequence of exposed risks using the principles of Australian Standard AS4360.

4. Acknowledgements

The independent consultants are grateful for the guidance and input of the following persons for their enthusiastic support and help during the review:

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- Paul Joyce, Minister's Office
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- Chris Green, DPI
- Clive Weaire, DPI
- Nina Lyhne, WorkSafe Western Australia Commissioner
- Grant Holiday, ITSRR, NSW
- Colin Dwyer, ITSRR, NSW
- Greg Almond, DIER, Tasmania
- Greg Ford, QT, Queensland
- Lindsay Watson, Assoc. of Rail Preservation Groups WA
- Ian Studham, Australian Railway Historical Society
- David Edwards, Pacific National
- Bob Christison, Rail Tram & Bus Union
- Reece Waldock, PTA
- Sue McCarry, PTA
- Bernie Martinovich, PTA
- Ian Willis, Hotham Valley Railway & Pemberton Tramway Co.
- Geoff Neil, Pilbara Railway Co.
- Tony Peterson, Pilbara Railway Co.
- Tim Ryan, WestNet
- Vic Bliss, WestNet
- Michael Stukely, Perth Electric Tramway Society
- Lindsey Richardson, Perth Electric Tramway Society
- Dave Brown, Perth Electric Tramway Society

5. Findings & Observations

For the benefit of the reader, the findings and observations section of the report is constructed as follows:

Section Subject Matter

- | | |
|-----|--|
| 5.1 | Legislative background and regulatory environment |
| 5.2 | Significant gaps in current legislation |
| 5.3 | General issues identified through analysis |
| 5.4 | Stakeholder Views |
| 5.5 | Current performance and effectiveness of Rail Safety Act |
| 5.6 | Risk Assessment |

5.1 Legislative Background and Regulatory Environment

There has been legislation within Australia to govern railways since the industry evolved. Legislation was needed to provide a head of power for land resumption, to give right of way etc. Over time, various states amended legislation to include matters such as passenger obligations, ticket conditions, and making the act of trespass a crime. Generally speaking, modern day legislation governs three aspects:

- Administration Arrangements, including matters such as;
 - Objectives of state owned railways;
 - Powers of Minister's and regulatory authorities;
 - Land resumption or land entry powers;
 - Right of way at level crossings;
- Rail Safety, including such matters as;
 - Accreditation requirements;
 - Certification of railway employees;
 - Investigations and Inspections;
- Carriage of Passengers and Freight, including matters such as;
 - Passenger safety provisions and passenger obligations; and
 - Passenger ticketing conditions and freight consignment arrangements.

Major changes to rail safety legislation occurred in Australia in the mid 1990s predominantly as a result of commercial reform and to implement contemporary practice such as the safety case approach that had evolved in the United Kingdom. Safety cases became the norm in other high-risk energy industries such as nuclear, oil and gas. The safety case philosophy is, in essence, a railway's case for how they manage risk. In the UK a safety case is approved as a pre-requisite before a railway can operate. This philosophy has become known as "Accreditation" within Australia and, at least conceptually, the safety case is broadly similar to our use of safety management plans or safety management systems depending on state terminology.

The commercial reform led to the breakdown of the state railway authorities and encouraged competition. This led to the need for regulation and open access arrangements, a function not needed with the old state owned railway systems.

In the mid 1990s Ministers of all Australian states agreed a common (or standardised approach) was needed. Therefore, an Inter-Governmental Agreement (IGA) was reached and overseen by an IGA committee looking at legislation and regulation and a technical working group looking at railway safety management standards.

NSW had already enacted their Rail Safety Act in 1993; their Act closely followed the UK model and they were the first Australian state to legislate for an accreditation process for railways. Each state subsequently worked together in collaboration, to ensure standardisation of approach and to benefit from the learning's of others. Rail safety legislation was introduced as follows:

Year	State/Territory	Legislation
1993	NSW	Rail Safety Act, 1993
1995	Qld	Amended Transport Infrastructure Act, 1994
1996	SA	Rail Safety Act, 1996
1996	Vic	Transport (Rail Safety) Act, 1996
1997	Tas	Rail Safety Act, 1997
1998	WA	Rail Safety Act, 1998
2001	NT	Rail Safety Act, 2001

In parallel with the IGA committee overseeing the enactment of legislation in each state, the technical working group oversaw the development of rail safety management standards. That work was performed by Standards Australia and led to the development and issue of the Australian Standard AS4292 suite of railway management standards.

These standards did not exist when NSW enacted the 1993 Rail Safety Act or when Qld developed the amendments to their 1994 Transport Infrastructure Act. However, they were in place when other states subsequently developed their legislation and, in some instances were mandated as minimum requirements in legislation, as is the case in WA.

In summary it can be concluded that in WA the Act was broadly similar to all other states and, when enacted in 1998, was a reflection of best practice at the time.

Observation

The Act is predominantly about accreditation and does not sufficiently cover many miscellaneous matters such as making the act of trespass on a railway a criminal offence. This is not just a theoretical weakness; it has caused many actual problems for minor operators. The scope of this review was not to cover complementary transport safety matters, however, a quick scan of other states' complementary legislation and regulation indicates they have legislative provision for a much broader range of safety issues. For example in NSW the "Rail Safety (General) Regulations, 2003" are general regulations made under their Rail Safety Act and predominantly cover general obligations relating to railways, such as:

- Conduct on trains and railway land e.g. Eating, Drinking, Alcohol and Smoking and unauthorised occupation of seats,
- Lighting fires,
- Use of escalators and lifts;
- Graffiti and Vandalism;
- Crossing lines; and
- Trespassing or Throwing Objects.

Queensland also has additional legislation e.g. the Transport Infrastructure (Rail) Regulations 1996 and the Transport Operations (Passenger Transport) Act 1994 and supporting regulations. This legislation also covers a vast range of complementary rail safety matters. In WA there appears to be a limited range of complementary legislation that provides a legislative head of power to government owned railways but does not cover the private entities. For example, trespass on a non government owned railway does not appear to be a legal breach.

Recent developments

Much has happened to the public's perception of the regulation of railways since the introduction of the Act in 1998. Most of the change in perception followed the major train accidents in New South Wales at Glenbrook in 1999 and Waterfall in 2001 where the judiciary severely challenged the NSW regulatory model.

The Honourable Justice McInerney expressed concern following the Special Commission of Inquiry into the Glenbrook train accident that the regulatory regime was neither independent nor resourced to perform its function. This has led to a substantial restructure the regulatory department and the introduction of numerous new positions to oversee both railway safety and independent investigation. Additionally, the "government owned" parts of the NSW railway industry have been substantially restructured.

To accommodate the above changes there has recently been substantial change to NSW legislation and, the current NSW legislation, is considered to be substantially different from the current Australian norm and a reflection of contemporary practice or perhaps best practice. Accordingly, the latest NSW legislation has been used considerably for benchmarking purposes throughout the remainder of this report.

RECOMMENDATION

In addition to this review of the Act there should be an additional assessment of complementary transport safety legislation and regulation. That assessment should consider the need to provide non-government owned railways with the same legislative powers as government owned railways for offences that compromise rail safety and to ensure the regulator has sufficient power to exercise their task e.g. powers of entry and powers to curtail activities etc.

Validated: This section 5.1 was validated by comparing legislation in each state. It also reflects the experience of Mr Kevin Band who was a former member of the IGA that oversaw legislative reform and a member of Standards Australia committee ME79 that developed the Australian Standard AS4292 suite of standards.

5.2 Significant Issues Associated with Aim and Scope of Current Legislation

The significant issues considered in this section of the report are:

- The aim of the Act;
- Understanding Rail Safety;
- Security;
- Risk Tolerability;
- Accountabilities; and
- Principle changes to NSW Rail Safety Act 2002.

5.2.1 The aim of current Rail Safety Act (WA)

The stated aim of the current Act is, *“To promote the safe construction, maintenance and operation of railways as part of a national approach to rail safety regulation.”*

Whereas, the latest NSW Rail Safety Act, 2002 is simpler, *“To promote the safe construction, operation and maintenance of railways”*.

Although some other states' Acts have a similar purpose to WA, the use of “a national approach to rail safety regulation” phrase is interesting and WA stakeholders have a range of diverging views as to what that phrase means or should mean.

Although all stakeholders believe the current administrators of the Act work in an open and consultative manner, some stakeholders believe there should be national legislation and a singular regulator administering that legislation. Other stakeholders believe there should be a co-regulatory approach and, furthermore, that the co-regulatory approach should be enshrined as an aim within the legislation. There are other stakeholders that believe co-regulation leads to an abdication of accountability and that there is a need for government to be more prescriptive.

A significant issue with the WA Act and with all other state's Rail Safety Acts is that unlike Occupational Safety and Health legislation, they fail to enshrine a legal obligation to be safe. OSH legislation generally requires organisations to ensure the safety of employees and others (passengers and public). A death or serious injury means that an employer has failed to ensure the safety of an employee or other person and in doing so is in legal breach. This means that should there be several deaths as a result of a train collision no legal breach has occurred.

In addition, none of the Acts reviewed require the need to seek continuous safety improvements. Given most railways perceive they are safe, in theory there is a potential risk of complacency. A statement stressing continuous improvements would further qualify the intent of the Act and ensure it is understood "duty-of-care" could only be discharged where improved performance was demonstrated over time.

RECOMMENDATION

There is a need to determine the preferred regulatory model used to administer rail safety in WA in order that the aim of the Act can be appropriately articulated. As a minimum, the aim of the Act should be, "To promote the safe construction, operation and maintenance of railways and to seek demonstrated continuous improvement in rail safety performance". The Act should also be amended to enshrine an additional obligation (legal duty) to ensure the rail safety.

Validated: This section 5.2.1 was validated by comparing differing legislative definitions.

5.2.2 Understanding the Scope of Rail Safety

The Act does not currently provide a definition of "Rail Safety" making the purpose and intent of the Act ambiguous, particularly when trying to understand the relationship between the Act and OSH legislation.

The Act does specifically state where there is inconsistency or conflict between "The Rail Safety Act" and "The Government Railways Act, 1904" The Rail Safety Act prevails. However, the Act does not address potential inconsistencies with the Occupational Safety and Health Act 1984 or indicate which Act prevails.

This lack of prevailing direction along with a lack of a definition of "Rail Safety" has the potential to cause confusion, lead to duplication of effort and potentially leave areas unmanaged with respective authorities believing the issue is being addressed by another authority.

In an attempt to address these complexities a cooperation agreement has been developed and agreed between the rail safety regulator and OSH regulator. This approach has been adopted in most Australian states.

The rail safety regulator believes the cooperation agreement helps clarify the boundaries and interfaces between rail safety and OH&S and claims the model is well understood by both regulators.

However, despite the best intent of the cooperation agreement the real intent of the Act and how it fits with OSH legislation is not addressed or understood. Every WA railway interviewed and the Rail Tram & Bus Union (RTBU) confirmed confusion and requested clarification. The RTBU was able to quote many examples of confusion and find themselves in dialogue with a number of regulators as a result. Three examples were discussed:

- Firstly, if a railway employee was assaulted and injured in the course of their duty i.e. a ticket collector (or guard) assaulted on board a train, it is unclear whether this is a rail safety matter or an OSH issue. Equally, was it to be a passenger that was assaulted rather than an employee, it is still unclear which jurisdiction would pursue the railway for failing to provide a safe environment.
- Secondly, if locomotive noise affected a train driver's ability to perform, thereby creating an operational risk to the train, it is likely that the matter would be addressed by the rail safety regulator. However, the same noise could also affect the driver's hearing and presumably be an OSH matter.
- Thirdly, the RTBU quoted an issue with driver only operated trains (DOO). The RTBU issue related to the approval of driver only operation by the rail safety regulator without sufficient regard being taken of OSH risks. The RTBU view is that all risks needed to be eliminated prior to approval of DOO.

The RTBU and railway stakeholder opinions are discussed further in section 5.4 stakeholder views.

Recent changes to the NSW Rail Safety Act were made to include a security provision. However, employee and contractor security was deliberately excluded because it is already covered by OSH legislation; a de facto acknowledgement that two forms of regulation exists.

The Tasmanian government appears to be proactive in addressing this issue and in their draft "Strategic Rail Safety Plan" has attempted to clarify the point by stating "Rail Safety" is generally defined as,

“The safety and security of the infrastructure, rollingstock, signalling, telecommunications and train management systems used specifically for railway operations and activities. As such, Rail Safety does not cover matters such as the structural safety of railway administration buildings or OSH of employees exposed to chemicals, noise or dust etc as these matters are governed by separate legislation and regulation. Rail Safety covers passenger safety and security at stations, whilst boarding and alighting trains and during rail journey, it also includes the safety of members of the public affected by railway activity, particularly at the interfaces with railway infrastructure. Rail Safety also covers the prevention of damage to freight commodities carried and the storage and transportation of dangerous goods carried by rail.”

Dangerous Goods

The current Act does not include the carriage of dangerous goods by rail nor is there any reference to relationships with dangerous goods by rail legislation and regulation. In WA dangerous goods are regulated by the Department of Industry and Resources (DOIR), which creates another regulatory interface.

The carriage of dangerous goods is acknowledged by the industry and the RTBU as a being both a major activity and a major safety/security risk. It is noted that the Queensland rail safety regulator also regulates the carriage of dangerous goods by rail, which from a railway company's perspective is a simpler and less bureaucratic model.

RECOMMENDATION

The relationship between the Rail Safety Act, the Occupational Safety and Health Act, 1984 and Dangerous Goods legislation should be reviewed and documented. In addition, the term “Rail Safety” should be specifically defined to prevent ambiguity with OSH legislation.

Validated: This section 5.2.2 was validated by comparing definitions within legislation and comparing it to the Tasmanian approach, assessing the cooperation agreement and reviewing relationships with other Acts.

5.2.3 Security

The term "Security" is not defined in the current Act nor addressed in the current accreditation processes. It is noted that security is deliberately excluded from the scope of Australian Standard AS4292. Some security events may be implied under notifiable occurrence reporting i.e. a derailment caused by vandalism. However, even here the intent of the notifiable report is primarily aimed at reporting the derailment not the security breach.

Recent global terrorist activity has heightened our awareness of the global security treat. Transport systems are clearly critical infrastructure assets and being mass people movers have the potential to be targeted, as evidenced in Madrid train bombing in 2004.

The NSW Rail Safety Act was recently modified to include passenger security and states,

"An applicant for accreditation must, if the operation of the railway involves the carriage of passengers, give to the ITSRR a passenger security policy and plan. The passenger security policy and plan must comply with any requirements prescribed by the regulations"

Although the approach taken by NSW in specifically addressing passenger security appears to be a contemporary approach in Australia and in line with best practice principles, it does not address the management of security in general e.g. the security issues associated with:

- The carriage of dangerous goods, particularly ammunition or those chemicals with the potential to be used in the making of explosives;
- Vandalism of rail infrastructure and rollingstock; and
- Occupational violence i.e. assaults on rail staff or passengers.

Note: The NSW Act quite deliberately, as evidenced in a parliamentary note, excluded employee and contractor security as it is already fully covered by the OSH legislation.

RECOMMENDATION

The Act should be modified to include security, a term that will also need to be defined. It is essential that any definition used relates, as a minimum, to those security events that lead to a rail safety deficiency rather than including matters such as graffiti, which although a security breach, may not lead to a rail safety deficiency.

Validated: *This section 5.2.3 was validated by identifying a gap within current legislation when compared to the NWS Rail Safety Act, 2002.*

5.2.4 Safety and Risk Tolerability

What does safety mean?

The current Act does not define the term "Safety" and, as such, creates an ambiguous situation when attempting to interpret what safety means.

There is a major difference between the concepts of "absolute safety" e.g. a zero tolerance with an imposed duty to guarantee and "reasonable precautions".

The Australian Standard AS4801, Occupational Health and Safety Management Systems, attempts to give meaning to the term safety and defines it as,

"A state in which the risk of harm (to persons) or damage is limited to an acceptable level".

The above definition does not entirely clarify the term "Safety"; rather it relates it to risk and introduces an "acceptable level" concept.

The Australian Standard AS4360 Risk Management defines acceptable risk as,

"An informed decision to accept the consequences and the likelihood of a particular risk".

The current safety accreditation processes appear to allow the tolerance of some risks. Level crossings are a good example to demonstrate this point. Other than suspected suicides, level crossing deaths account for most rail related deaths in Australia; approximately twenty (20) per year. In theory, grade separation of the nations 10,000 (approx) level crossings would eliminate that hazard. In reality, grade separation is neither realistic nor affordable.

Although not stated, our use of level crossings suggests an implied acceptance of level crossing risk, as is the case in railways all around the world.

Safety and Risk

As the authority for administering rail safety, DPI needs to assure itself, and the community, that rail safety risks are being managed to levels that are "As Low As Reasonably Practicable" (ALARP).

The basic principles of Australian Standard AS4360 Risk Management appear to be well understood by the WA regulator and by the railways whose safety management plans were assessed as part of this review. Generally safety management plans say hazards will be identified, evaluated and managed.

A deficiency within the current Australian Risk Standard, 4360, is that there is little reference to "risk tolerability". As such, there is no reference to how far one has to go in the pursuit of safety or at what cost. This means that railways have little basis against which they can demonstrate their risks are As Low as Reasonably Practicable (ALARP) and regulators have little objective basis to assure themselves, and the community, that rail safety risks are being reasonably managed.

UK Model

The current UK regulatory model is based upon a safety case approach, which became a legislative requirement in 1994.

Safety Cases should not be seen purely as a basis of gaining accreditation i.e. an administrative hurdle. Rather they need to be embraced in the culture of an organisation and drive day-to-day activities and decision making processes.

The safety case approach is built on a philosophy that the management of and continuous improvement in rail safety requires ongoing attention to the assessment, evaluation and the management of risk. Fundamentally, the concerns and values of the community need to be accepted and addressed if railways are to discharge their legal and moral obligations.

Prior to 1994, the former British Railways Board, with the support of regulators started using a risk tolerability framework. In effect they agreed a tolerable level of safety which could be used by railways to demonstrate reasonableness and by regulators to challenge.

The risk tolerability framework became a huge eye-opener for railway managers because they thought they were managing safely and their performance was improving. By way of example, British Rail had reduced employee deaths from 70 per year in the 1970 to 20 per year in 1990. During the same period of time workforce numbers had dropped from nearly 700,000 to 136,000 and, when normalised, fatality rates had deteriorated by 47% from 1 fatality per 10,000 employees per annum in 1970 to 1.47 fatalities per 10,000 in 1990.

In particular, fatality rates associated with track related work were identified as being five times worse than fatality rates of the working population generally and some critical groups of staff, such as signal fault crews were exposed to intolerable levels of risk i.e. 1 fatality per 750 employees (or 13.3 per 10,000).

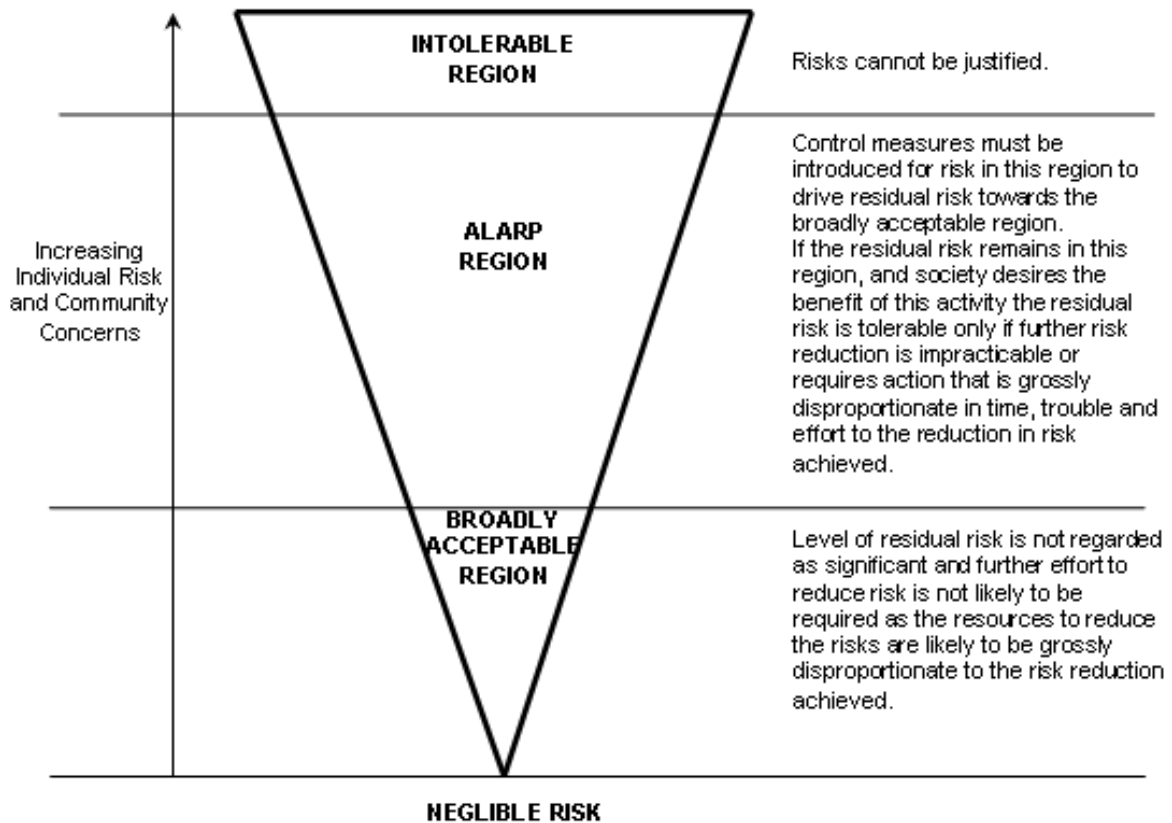
Armed with this information action had to be taken and within two years track side deaths fell from 20 per year to 2.

The UK railways benefited from substantial research undertaken by the nuclear industry and made use of an international standard IEC 61508 which in Part 5: (Examples of methods for the determination of safety integrity levels) - supports the concept of industry (including regulators) agreeing a risk tolerability framework.

Note: International Standard IEC61508 is now an Australian Standard AS61508.

The illustration below demonstrates the basic concepts of a tolerability framework whereby risks can be categorised into:

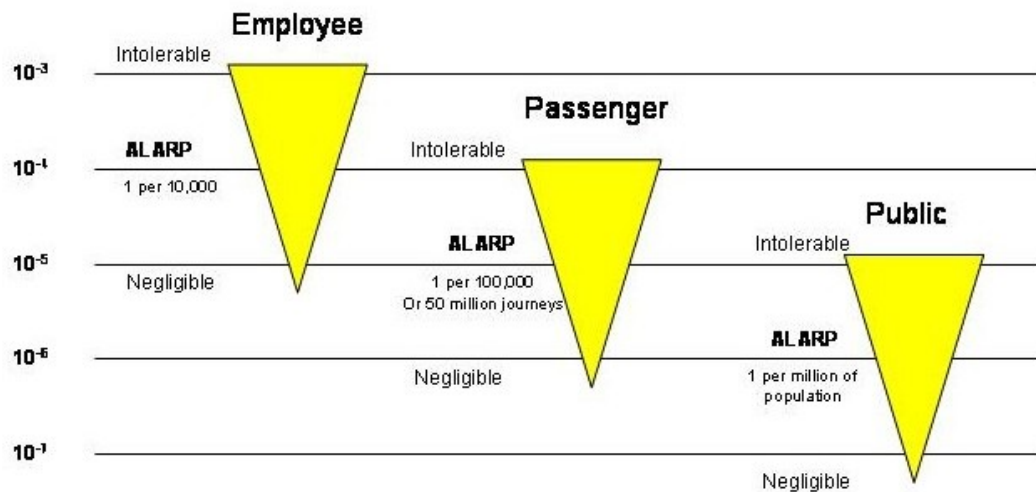
- An intolerable level e.g. an unacceptable performance, which is stopped or fixed irrespective of costs;
- A negligible level where no action is expected; or
- An "As low as Reasonably Practicable" (ALARP) level where we are allowed to tolerate the risk as long as it can be demonstrated that the cost of further improvements are not grossly disproportionate to benefits gained.



The framework is also defensible, in that one is able to clearly demonstrate a diligent approach has been taken to understanding risk and its relative value rather than no structured approach, which is arguably negligence.

In addition, the framework also provides an opportunity to sensibly quantify the level of risks we are prepared to tolerate. This gives regulators and railways a common basis to discuss and agree priorities and strategies.

The illustration below shows how a tolerability framework can be applied to passenger, public and employee performance levels.



The above approach can also be used to determine other performance measures such as tolerable rates for critical failure modes e.g. wrong side signal failures or operational risks such as derailments, signals passed at danger (pre-cursors to train collisions) or level crossing accidents etc.

The concept of risk tolerability is widely used in the UK and is gaining momentum in Australia.

Risk Tolerability is an advanced risk tool that is currently neither well-understood nor used. However, as a tool it can be essential in demonstrating:

- An understanding of risk;
- Prioritisation of strategies; and
- Enabling maximised safety benefit to be achieved at affordable costs.

Queensland Rail has used the concept and they have witnessed substantial and sustainable improvements as a result. For example, they have reduced derailments, train collision risk and public and employee deaths by approximately 80%. The risk tolerability concept is gaining momentum in NSW Tasmania and Victoria.

The Tasmanian government has recently issued a draft risk tolerability framework to be used by the Tasmanian railway industry in evaluating risk and demonstrating that their safety performance is reasonable and acceptable to the community.

The Tasmanian framework attempts to:

- Make transparent the factors that inform our decisions on how risks should be managed;
- Reassure the public that risks to people from rail activities are properly addressed having taken account of the benefits of the activities giving rise to the risk;
- Satisfy the public that the rail industry, in responding to business pressures, will not be allowed to impose intolerable risks;
- Inform other regulatory areas, whose responsibilities potentially overlap with Rail Safety the basis for the management of rail safety risks, thereby enabling a consistent approach to be taken by all regulatory areas; and
- Introduce the concept of risk tolerability i.e. accepting a willingness to live with some risks to secure a sustainable outcome for railways as long as those risks are not detrimental to the community.

RECOMMENDATION

The term safe (or safety) be defined in the Act and it should be explicit that safety is not an absolute state, rather there should be an acknowledgement that risk should be managed to levels that are as low as reasonably practicable. Furthermore, a risk tolerability framework should be determined by the WA rail industry to underpin the risk management concept.

Validated: This section 5.2.4 was validated by comparing WA processes with the approach taken in the UK, in Queensland Rail and the Tasmanian government relative to risk tolerability.

5.2.5 Accountabilities

With regard to accountabilities the Act is silent on the:

- Overall accountability for a railway corridor and particularly operations on a corridor where there are interfaces between railway owners and third party operators; and
- Role and function of the regulator.

Interfaces and Railway Owner Accountability

There has been substantial debate throughout the Australian railway industry regarding the ultimate accountability for a network and where it resides. Third party operators object to railway owners exercising control and performing audits etc. They see this as a regulatory function; they even argue a barrier to entry.

The railway is a workplace and, as such, the railway owner has a non-delegable obligation (general duty of care) for that workplace.

The generic principles of OSH legislation throughout Australia give employers an obligation to ensure:

- The workplace safety and health of each worker in the conduct of their business or undertaking; and
- That other persons are not exposed to risks to their safety and health.

Employers also have obligations to ensure:

- The risk of injury or illness from a workplace is minimised for persons coming onto the workplace to work;
- The risk of injury or illness from any plant, equipment or substance provided for the performance of work for other than workers is minimised when used properly; and
- There is appropriate, safe access to and from the workplace

From a legal perspective, other persons would, without doubt, include third party operator's employees, especially where the railway owner had a degree of control over an activity.

Unless the Act is changed to take precedence over OSH legislation, the railway manager must retain ultimate control of the safety of the network and the Act would benefit from making that statement clear.

Regulator Accountabilities

Supreme Courts are beginning to challenge the role of government in overseeing rail safety; particularly in NSW following Glenbrook and Waterfall and the UK following Ladbroke Grove and Hatfield. Accordingly, expectations of governments and their administering authorities are changing and governments and regulators are now being seen as a directing mind, which means they need to be both “risk aware” and a competent authority able to determine standards of performance.

In WA the rail safety regulator operates in a “co-regulatory manner” perceiving consultation and dialogue leads to the greater involvement of railways. The railway stakeholders interviewed as part of this review generally concur with this opinion. Pacific National believes the co-regulatory approach should be enshrined as a stated aim within the Act. However, the RTBU feel co-regulation does not go far enough. Essentially they believe governments should regulate and determine safety performance requirements having consulted all stakeholders.

The RTBU and the PTA believe the role of the regulator should be made more specific in terms of what their function is and what it isn't. This view was supported by all stakeholders interviewed. The PTA believes lack of clarity of function leads to a continual shift between a co-regulatory environment and regulator involvement in operational matters. The RTBU stated that lack of defined responsibilities led to regulation being applied inconsistently and based upon the personal opinions of the incumbent regulator. For example, the RTBU claim the regulator has intervened in some safety related disputes between railways and unions but has chosen not to in others. They believe a clear statement on whether the regulator is an arbitrator in safety disputes should be made so that the regulator intervenes in all cases or none. **Note:** the UK safety regulator is specifically prevented from intervening in industrial matters, a practice that seems sensible given the consequences of industrial disputes and the degree of specialism needed to intervene in industrial arbitration.

The current Act appears not to acknowledge the rail safety unit or their accreditation function. This suggests accountability resides with the Director General; the only person acknowledged by the Act. However, it was noted that the Director Rail Safety has been given authority to perform key regulatory functions through an instrument of delegation. The recent changes to NSW legislation acknowledge the function of the Independent Transport Safety & Reliability Regulator (ITSRR) and the Independent Accident Investigation Unit. Those bodies are specifically defined and have accountabilities assigned. The specific assignment of accountability to the person performing the function appears to create enhanced autonomy and removes potential uncertainty.

The Tasmanian government appears to be even more explicit and in their draft "Strategic Safety Plan" has defined the accountabilities of railway owners, operators and the regulator. The Tasmanian accountabilities reflect best practice and are detailed below:

Regulatory Accountability

In general terms the regulator is accountable for ensuring railways operate in a safe and proper manner, this function is predominantly discharged through legislation and regulation and by measuring failures in risk management systems rather than individual breaches.

Specifically, the regulator is accountable for:

- Determining, in conjunction with industry, broad risk based exposure limits and for setting performance objectives;
- Being risk informed and provide public information on rail safety and infrastructure integrity;
- Accrediting railway owners and operators based upon a robust safety management plan, which include emergency management arrangements;
- Auditing compliance to those accredited safety management plans and verifying infrastructure, safety and operating standards are maintained and where necessary improved; and
- Working collaboratively with industry to ensure those affected by rail activities are involved in determining direction.

Railway Owners' Accountability

Railway owners are deemed to have ultimate responsibility for ensuring the safe operation of the network. This includes:

- Responsibility and accountability for the railway infrastructure and train control. This responsibility includes design, construction, commissioning, operation, modifications, maintenance and for updating information such as master plans and drawings;
- Managing the network and train control, which specifically means granting access paths, network management, signalling, train plans, train control systems that complement signalling and emergency plans for the network;
- Determining and being accountable for network rules and for specifying the exact nature and extent of technical standards and for verifying compliance with those rules and standards;

Continued

- Ensuring risks associated with third party operators and other parties interfacing with the railway infrastructure is jointly identified and evaluated and controls jointly developed;
- Providing an annual certificate relating to the state and integrity of the infrastructure and signalling systems;
- Developing and maintaining the railway owner's safety accreditation application; and
- Determining the service specification requirements for activities managed on an agency basis and for monitoring compliance to those specifications.

Railway Operators' Accountability

Railway operators are deemed to be the have an agreed access right to operate trains on the railway and are:

- Responsible for determining and complying with formal safety management plans, which in turn address the mandatory requirements of the Railway Owner, legislation and industry standards and codes;
- Responsible for their operations and for the activities of workers engaged in those activities;
- Responsible for risks associated with their rollingstock, infrastructure and buildings. That responsibility includes design, construction, commissioning, operation, modifications, maintenance and for updating information including master plans, drawings, databases etc;
- Responsible for providing an annual certificate relating to the state and integrity of their rollingstock;
- Responsible for their passengers (and/or freight) and accountable for their safety where the operator owns the risk control measures¹; and
- Responsible for developing and maintaining their safety accreditation application.

RECOMMENDATION

The accountabilities of the regulator, railway owners and railway operators be reviewed and explicitly defined.

Validated: This section 5.2.5 was validated by comparing WA processes with the approach taken by NSW and the Tasmanian government relative to accountabilities.

¹ Owns (the risk control measures) refers to the specific controls developed to protect the rail operator's activities eg the provision of emergency equipment on a train to protect passengers, which is a specific operator responsibility. Conversely, an operator is unlikely to be accountable for an injury to a passenger involved in a derailment or collision caused by an infrastructure defect, which is likely to be a rail owner's responsibility.

5.2.6 NSW Rail Safety Act 2002

The NSW Rail Safety Act, 2002 has been substantially changed in terms of its overarching principle and the imposition of new or heightened requirements.

The NSW Act has also been changed to specifically highlight the function and role of the ITSRR and its associated Advisory Board and the Office of Transport Safety Investigation.

The NSW Act is now radically different from all other Australian states and appears to represent best practice. Although it is noted the Victorian government is clearly indicating substantial changes are needed as evidenced in their 90 plus page "Issues Paper", which advocates a safety case approach and is currently being consulted on with in the industry.

With regard to overarching principle

The NSW Act is now modelled along the lines of OSH legislation and the Act now gives the regulator significant powers of enforcement, such as, the issue of improvement or prohibition notices. Prosecution and fines are now more punitive.

The logic behind the change in NSW is interesting and dialogue with the NSW regulator revealed the changes were based on significant concerns, particularly with the regulation of large or government owned railways.

The regulator was concerned that the previous Act was written in a way that it applied to railways at the corporate entity level. In other words, accreditation was sought by the Chief Executive of a railway on behalf of the corporation.

The regulator had the power to suspend a railway's accreditation on the grounds of safety but to do so would have the effect of closing the railway; closure being too extreme, particularly if a safety problem was a localised issue. For example a one-off concern about the sighting of an individual signal on a rural branch line could have the effect of closing the NSW metropolitan railway system; clearly inappropriate and not commensurate with the risk or original concern.

In reality, if the only course of action available to the regulator is to threaten the entire railway's operation, it is perceived likely that no action would be taken at all.

Whereas, if a parallel is drawn with OSH legislation, safety inspectors do not close a company for a deficiency, rather they issue a notice which either immediately prohibits an activity or seeks an improvement of a situation, often in a reasonable timeframe e.g. within 7 or 28 days depending on what is reasonably achievable.

Although the previous NSW Rail Safety Act allowed for conditions to be made, these conditions had to be served on the corporate entity (Chief Executive) the only party legally covered by the Rail Safety Act. This process was perceived (by the regulator) as being time consuming and cumbersome. It also meant that immediate action to address an imminent safety risk could not be taken.

Additionally, with OSH legislation, a notice issued locally has immediate and personal impact on the local manager. This alone is a major deterrent as it creates immediate local accountability. It is also a process all managers are familiar with.

Queensland Transport shared the NSW concerns that historically powers of intervention were insufficient and despite being able to close a railway, they had little real power to require localised improvements or prohibit certain activities. To address this concern the Queensland Act was changed to enable the regulator issue safety directives. Queensland deliberately decided not to issue improvement or prohibition notices, they believed their power to issue a directive had the same effect.

Stakeholders generally concur as a principle and in theory there is a need for legislation to allow for punitive measures to be applied on a staged basis should they fail to follow directions.

Many stakeholders also see merit to issuing improvement or prohibition notices in certain circumstances. WestNet Rail Pty Ltd (WestNet) believed notices were powerful in that they forced the regulator to be specific in documenting the issue to be addressed and the action required.

Observation

It is interesting to note that although OSH principles have been adopted in the NSW Rail Safety Act and to a lesser extent Queensland neither state has gone as far as specifically requiring the "Hierarchy of Control" principle adopted in OSH legislation. The hierarchy principle requires hazards to be eliminated as a first preference. If this is not practical, it then requires managers to see if substitute processes can be used. Again if this is not practical it allows for the development of engineering solutions e.g. guards, followed by administrative solutions e.g. training and then finally personal protective equipment.

The hierarchy of control principle codifies both a legal and logical approach to managing safety risks and certainly goes beyond a risk management approach where a manager can make an informed decision to accept a risk. The hierarchy principle would not allow a risk to be accepted if elimination or substitution were reasonable options i.e. solutions that were affordable, achievable and readily available.

With regard to heightened requirements

The NSW Rail Safety Act, 2002 has been substantially changed in terms of heightened requirements, particularly regarding management responsibility and risk management.

Management Responsibility

The NSW Rail Safety Act, 2002 has been significantly changed and management responsibility is emphasised, a significant change from the previous Act that was written in a generic way and biased towards rail safety work and rail safety workers rather than spelling out management accountability. It is perceived that this will have the effect of creating a culture of management ownership, similar to OSH principles with line managers become personally accountable, rather than a perception that it doesn't matter under the corporate accountability model.

Risk Management

The NSW Rail Safety Act, 2002 in Section 9, when it describes the purpose of accreditation places greater emphasis on risk management. This greater emphasis should not be understated as industry capability has been severely challenged in the Waterfall Special Commission of Inquiry.

By way of example, historic railway risk assessments identified a Signal Passed at Danger (SPAD) as a hazard with the risk being a potential train collision. Contemporary thinking suggests that the SPAD risk is too big an issue to consider and singularly control. Instead much more detailed analysis is required to demonstrate an understanding of the context and variables associated with the hazard.

For example, if we look at driver fatigue (potentially associated with shift work) and how it affects driver alertness levels, potentially leading to the driver misjudging or disregarding a signal aspect or proceed authority, we have a more informative description of part of the SPAD hazard.

In this fatigue example, the SPAD risk might be mitigated by the existence of controls such as a deadman's device, a vigilance or train protection system or even a driver meal break. **Note:** a deadman's device is a fail safe system whereby the driver continually presses a hand or foot pedal, failure to do so, if the driver collapses, causes a brake application.

The logic of the argument being one of management being aware that if a train is running late and a driver misses a scheduled meal break it could impact on his levels of alertness and lead to a SPAD. Accordingly, driver breaks or rest periods would be seen as being critical safety controls, rather than a condition of employment and, as such, be a safety control that requires heightened supervision, inspection, audit etc.

Waterfall also highlighted other examples of risk and their controls not being fully understood. For example, driver medical condition is a known potential hazard but the controls (medical fitness standards) were deemed insufficient to detect a medical condition. In this instance, the Inquiry saw the deadman's device as critical risk control. Unfortunately the deadman's device had known latent failures within its design and was not performing the desired risk mitigation.

With regard to the Independence of the ITSRR and Accident Investigations

The NSW Rail Safety Act, 2002 was further changed by The Transport Legislation Amendment (Safety & Reliability) Act, 2003, No 65. The amendment was introduced to constitute ITSRR and to establish the Independent Transport Safety and Reliability Advisory Board, to amend other Acts with respect to their functions and to make other provision with respect to the safety and reliability of public transport services and the investigation of public transport accidents.

The amendments were made to accommodate the findings of The Special Commission of Inquiry into Glenbrook, which were fairly scathing of the perceived lack of regulatory independence. The government owned railways in NSW are highly political and subject to substantial subsidy. The Commission of Inquiry was concerned that transport regulation, transport policy and transport funding were functions all undertaken by the same Minister and Director General.

The Commission is thought to have believed decisions to implement for example Automatic Train Protection (ATP) would be unduly influenced by budget constraints rather than safety concerns. In theory, presumably, it could mean that an accident investigation would not be allowed to recommend fitting ATP because the \$500m (estimated) cost was not affordable.

The Commission believed these matters were too significant and there should be an independent challenge or scrutiny of government decision making processes.

The NSW attempt to instil independence is radically different from the regulatory model adopted by other states.

Several WA stakeholders supported the NSW principle of independence and believed the WA rail safety regulator should be assigned formal accountability under the Act for regulating rail safety, rather than the Director General. A change of this nature would enable the Director General to better demonstrate independence from his role of policy setter.

RECOMMENDATION

The Act should be modified to reflect the principles of Health & Safety Legislation, particularly with regard to risk, management accountability and the provision of improvement or prohibition notices. This change would be in line with the current NSW Act and be a reflection of best practice. To prevent confusion with OSH legislation, safety directives could be used as an alternative to notices, this would be in line with the Queensland approach.

Additionally, the use of the hierarchy of control principle used in OSH legislation should also be mandated.

Furthermore, the Act should be amended to assign formal accountability to the Director Rail Safety for regulating rail safety.

Validated: This section 5.2.6 was validated by comparing WA legislation with NSW and the UK and also considering the Waterfall and Glenbrook Special Commissions of Inquiry findings with regard to regulation.

5.3 General Issues and Analysis

5.3.1 Australian Rail Safety Standards

In Section 3 Interpretation, the Act currently defines Australian Rail Safety Standards as, "such principles and standards prepared, approved and published by Standards Australia in relation to railway safety management as are prescribed for the purposes of this definition".

Section 8 of the Act creates a degree of ambiguity by stating that an applicant will be accredited if the Director General is satisfied the applicant has the competency and capacity to meet the requirements of the Australian Rail Safety Standard **and** any other standard prescribed.

The wording of the definition of Australian Rail Safety Standard is causing a degree of confusion with stakeholders who seem to perceive the definition of a rail safety standard, when read in conjunction with Section 8 is some form of de facto prescription of all Australian Standards for rail safety management.

It should also be noted that most stakeholders have a major problem with the Act prescribing Australian Standard AS4292. Railways accept their non-delegable duty to manage risk. They believe they should demonstrate they have diligently identified and evaluated risk and have mitigation controls in place. They wish to be able to use a range of industry standards and codes where they are appropriate and commensurate with their specific risk exposures.

Australian Standard AS4292 was not designed for contained heavy haul railways, which may well prefer to implement the American FRA standards instead. Equally, Australian Standard AS4292 was not designed for heritage type operations and legislative prescription of an inappropriate standard has the potential to create risk and could be perceived as taking accountability away from the duty holder.

The supporting Rail Safety Regulations, 1999 attempts to clarify the point by stating that only part one of AS4292 is prescribed for the purposes of the Act. It would be less confusing if the Act actually prescribed the requirements and if part one of AS4292 is to be prescribed then the Act should say so, rather than needing to go to regulations to understand what the Act means.

It should be noted the recent NSW Act does not use the term rail safety standards and therefore has no need for a definition. The Queensland Act does not prescribe AS4292 either, leaving it to railways to demonstrate how they will manage their risks.

If a risk management philosophy is to be adopted in WA, railways will need to demonstrate how they manage their risks to the satisfaction of the regulator and the need for the Act to prescribe AS4292 part one will be obsolete.

RECOMMENDATION

It is recommended that the current definition of Australian Rail Safety Standards be reviewed and either withdrawn or, if retained, modified to reflect a simpler generic definition.

Validated: This section 5.3.1 was validated by comparing WA legislation with NSW.

5.3.2 Rail Safety Work

In Section 3 Interpretation, the Act currently defines "Rail Safety Work" as,

"meaning any of the following classes of work:

- a) work that involves or relates to the driving or operation of a train or trains,*
- b) work than involves or relates to the control of the movement of a train or trains,*
- c) work that involves or relates to the design, construction, repair, maintenance, upgrading, inspection, testing or removal of rail infrastructure or rollingstock; or*
- d) other work of a kind prescribed for the purposes of this definition".*

A key issue with the above definition is that it suggests an office worker in a design section that works on signal drawings would be undertaking rail safety work. This definition can be dangerous because other legislative requirements would automatically apply to this sort of person e.g. alcohol and drug testing, health and fitness etc. There is no problem with the inclusion of these persons, if that was the original or future intent of the Act but it should be more explicitly defined in either case.

The PTA believes the "rail safety work" definition causes concern in an operational context. They believe there is confusion as to when construction of a railway commences eg does it include earthworks on a Greenfield site or does it include earthworks caused by utility service providers?

There is similar confusion with the use of the word "design" in the context of rail safety work eg is it the design of earthwork or the design of the rail infrastructure?

The NSW Act defines rail safety work as meaning:

"any of the following classes of work carried out by a railway employee:

- a) work involving the operation or movement of a train or trains,*
- b) work on or about railway infrastructure relating to the repair, maintenance, cleaning or upgrading of railway tracks or any rolling stock or associated works or equipment,*
- c) work involving certification as to the safety of infrastructure or rolling stock (or any item of infrastructure or rolling stock),*
- d) work involving the development, management or monitoring of safeworking systems for railways,*
- e) any other work that is prescribed by the regulations as railway safety work".*

The NSW definition appears to be an improvement of the WA definition in that in b) the person has to be working on or about the railway before the requirements apply. In addition, clause c) clarifies that rail safety work applies to those certifying safety, which is arguably a more relevant issue.

With regard to utility service work on or about the railway, the PTA believes there is confusion as to where authority for approval resides. Section 30 of the Act relates to work near a railway. However, the Act only overrides the Government Owned Railways Act, 1904 and the Public Transport Authority Act, 2003. Therefore, it is unclear whether say Western Power needs approval to work on a railway or whether they perceive they have authority through their associated legislation.

RECOMMENDATION

The current "Rail Safety Work" definition should be reviewed to provide greater clarity of intent and to determine whether the Act applies to all railway employees or limited to those employees working on or about the track or engaged in critical work. The review should consider the definition of rail safety work used in NSW and create an alignment with the AS4292 definition of "rail infrastructure".

The review should also consider whether work performed by utility service providers is "rail safety work" and, if so, whether the work needs approval of the accredited owner. If accredited owner approval is required, it is likely that the Act needs to be given precedence over utility service provider legislation. If it is determined accredited owner approval is not required the definition of rail safety work should specifically exclude work performed on or about the railway by utility service providers to prevent ambiguity of accountability.

Validated: This section 5.3.2 was validated by comparing WA definitions with other states.

5.3.3 Accredited Person

The NSW Rail Safety Act, 2002 defines an accredited person as, "a person accredited, or granted provisional accreditation....".

There is no such reference to an accredited person in the WA Act. There is a definition of accredited, however that is in the context of a generic process e.g. meaning compliant to part two of the Act.

The definition in NSW becomes particularly important in Section 9 where it stipulates:

- *The accredited person as being **accountable**;*
- *Directors and managers are also accountable for the accredited system submitted (in the case of a corporation); and*
- *An accredited person to demonstrate competence and capability to implement the system submitted.*

The above requirements assign accountability to individuals rather than a corporate body (or representative) and instil a culture of ownership.

RECOMMENDATION

Greater accountability should be assigned to specific individuals and directors by creating a new term "Accredited Person" and defining that accredited person as being accountable for the accredited system. Accredited persons should include all officers of an organisation, in line with OSH Legislation.

Validated: This section 5.3.3 was validated by comparing WA definitions with other states.

5.3.4 Employee Capability

This section employee capability covers:

- Employee competence;
- Alcohol and drugs;
- Health assessments; and
- Fatigue.

Section 31 of the Act relates to “Railway Employees” and states,

*“(1) It is a condition of accreditation that an accredited person must take all **reasonable steps to ensure** that a railway employee who performs railway safety work —*

(a) has the capacity and skills, and is adequately trained, to perform the work;

(b) is of sufficient good health and fitness to perform the work; and

(c) does not carry out railway safety work —

(i) while there is present in his or her blood, alcohol of, or greater than, the concentration prescribed; or

(ii) while affected by a drug in a way which could detrimentally affect the person’s ability to perform that work.

(2) A railway employee must not carry out railway safety work —

(a) while there is present in his or her blood, alcohol of, or greater than, the concentration prescribed; or drug”.

Note: With regard to Alcohol and Drugs, additional requirements are prescribed in the Rail Safety Regulations, 1999.

With regard to competence

The use of the words “reasonable steps” and “to ensure” appears to be a tautology. The Courts believe the term ensure “should be construed imposing a duty to guarantee”. Reasonable steps also appear to be a subjective term without supporting guidelines to qualify the intent, e.g. what criteria will be used by the regulator is assessing compliance.

Given a reasonable person is likely to conclude that rail safety work, such as driving a train, is safety critical. It follows that some activities ought to require mandatory training or qualification. By way of example, we cannot drive a car without a licence and there are more onerous requirements imposed on bus or truck drivers.

In addition, Safety Acts that oversee other critical industry, such as mining, often impose mandatory certification. For example, the Queensland Mining and Quarrying Safety and Health Act, 1999 requires manager to hold a “1st Class Certificate of Competency” in certain conditions.

In comparison, the NSW Rail Safety Act, 2002 now, in section 36 states,

“An operator of a railway may issue certificates of competency to employees or prospective employees of the operator who carry out, or intend to carry out, railway safety work”.

The NSW Rail Safety Act, 2002 also enables regulations to be produced and alludes to what they may include and although no formal regulations have yet been made, the NSW government formally gazetted guidelines regarding certificates of competency on the 23rd August 2003.

The guidelines for certification of competency are a 16 page document that expands on the requirements of the NSW Rail Safety Act, 2002. The guidelines go beyond training and qualification and also relate to Health and Fitness and any other matter that affects a person’s ability to perform safely.

With regard to Drug and Alcohol Testing

The NSW Rail Safety Act, 2002 has been substantially changed and imposes considerably more onerous requirements than the current WA Regulations require.

The NSW Act now states,

“It is a condition of accreditation that an accredited person must:

- (a) prepare and implement a drug and alcohol program for its railway employees that complies with guidelines issued by the ITSRR for the purposes of this section and published in the Gazette,*

and

- (b) ensure that all railway employees employed, or contracted, by the person to perform railway safety work are not under the influence of alcohol or any other drug when about to carry out, or while on duty for the purpose of carrying out (whether or not carrying out), railway safety work”.*

The NSW Act is supported by the “Rail Safety (Drug and Alcohol Testing) Regulation 2003”. These regulations are of a legalistic nature and cover the legislative processes and powers to oversee and administer a drugs and alcohol testing regime, such as:

- Breath analysis;
- Taking of blood and urine samples;
- Restriction on requiring tests;
- Appointment of authorised officers;
- Offences relating to alcohol and drugs;
- Testing for alcohol and other drugs;
- Medical practitioners and nurses—protection from liability;
- Offences relating to testing for alcohol or other drugs;
- Refusal to be tested;
- Interfering or tampering with, or destroying, samples; and
- Certificate evidence in proceedings.

Additionally, the guidelines referred to in the NSW Rail Safety Act, 2002 were gazetted on the 23rd August 2003 as "Guidelines Relating to Drug & Alcohol Programs". These guidelines are nine pages long and require relatively onerous issues to be addressed such as proactive education and awareness programs and the need to see alcohol and drugs as an overall health issue, rather than a compliance program. Railways are expected to provide details of the program in the annual safety report. In other words provide evidence that policies are working and tests have been performed.

Specific requirements of the guidelines are:

- Program to meet risk management principles;
- Utilise Australian Standards AS4801, AS4804 and AS4360;
- Emphasis on education and rehabilitation;
- Obligations to inform employees of responsibilities;
- Employees must comply and cooperate;
- Employees having treatment or rehabilitation to have access to leave;
- Testing in accord with Australian Standard AS4308;
- Disciplinary Action and Sanctions; and
- Assistance Available.

With Regard to Health Assessments

The NSW Rail Safety Act, 2002 states,

"It is a condition of accreditation that an accredited person must ensure that all railway employees employed, or contracted, by the person to perform railway safety work are of sufficient good health and fitness to perform the functions for which they are certified".

The enhanced requirements to the NSW Rail Safety Act, 2002 appear to relate to the Waterfall accident where the driver tragically died at the controls of the train with a medical condition that may have been detected with contemporary medical fitness standards.

Currently there are no specific detailed regulations in place, although the Rail Safety (General) Regulation 2003 states, in Section 50 (Health and fitness of railway employees); that,

"An accredited person must not employ a person as a railway employee unless the person meets any applicable standards".

Draft guidelines were once developed in NSW but never gazetted. Health and Fitness is a key issue being progressed by the Waterfall inquiry and guidelines will no doubt be deferred until their deliberations are complete.

With Regard to Fatigue

The current WA Act makes no reference to fatigue. Whereas, the NSW Rail Safety Act, 2002 in Section 43 states,

"It is a condition of accreditation that an accredited person must:

(1) Prepare and implement a program for the management of fatigue, safe hours of work and periods between work for its railway employees that complies with the regulations and guidelines issued by the ITSRR for the purposes of this section and published in the Gazette.

(2) The program for the management of fatigue, safe hours of work and periods between work is to include any matters required to be included by the regulations and guidelines issued by the ITSRR for the purposes of this section.

Additionally, the guidelines referred to in the NSW Rail Safety Act, 2002 were gazetted on the 23rd August 2003 as "Guidelines Relating to the Management of Fatigue". These guidelines are six pages long and require relatively onerous issues to be addressed such as training and education, on the job awareness, the provision of rest environments and scheduling of shift and rest periods. A major issue with the NSW Rail Safety Act, 2002 is the requirement for a program to cover "safe hours of work". Although regulations do not yet exist it is envisaged, when developed, they will emerge and mandate either maximum hours of work or a fatigue program that is compliant with the guidelines. Without those regulations the Act has onerous obligations.

The management of fatigue is generally becoming acknowledged as a critical human factor issue. The Mining Industry mandates fatigue monitoring and, for example, the Queensland Mining and Quarrying Safety and Health Regulation, 2001 requires risk monitoring to detect the effects of physical symptoms of heat stress and fatigue.

In addition, in WA new standards took effect 1 July 2003 for managing commercial driver fatigue as well as amendment to Occupational Safety and Health Regulations, 1996.

RECOMMENDATION

The current employee capability requirements contained in section 31 should be substantially reviewed and significantly enhanced to reflect the significant risks associated with certain safety critical tasks. Given the risk exposure associated with safety critical employees e.g. the Glenbrook and Waterfall train accidents and given the depth of subject matter covered in Section 31, it is likely that there would be benefit in breaking the section into discrete standalone sections e.g. employee competence, alcohol and drugs, health assessment and fatigue.

For those safety critical functions, the Act should explicitly use the term “ensure” in preference to taking reasonably practicable steps. With ensure being used in the context of an imposed duty to guarantee.

With regard to employee competence the Act should consider mandating formal certification for persons engaged in critical activities such as train driving, train control, signal design and certifying rollingstock or infrastructure prior to operational use.

With regard to alcohol and drugs the requirements of the Act needs to be more specific and be complemented with detailed supporting regulations along the lined of those used in NSW.

With regard to health assessment the Act should require stringent medical fitness standards for those employees engaged in critical activities such as train driving or other functions where passenger or public lives are at risk as a result of the existence of medical conditions.

With regard to fatigue the Act should require accredited fatigue management programmes for safety critical workers line with the NSW Rail Safety Act, 2002 or the contemporary models used in the mining industry or road transport.

Validated: This section 5.3.4 was validated by comparing the WA employee capability requirements with other states, with other industries (mines) and with contemporary OSH legislation and regulation.

5.3.5 Annual Safety Report

Section 36 of the WA Act requires an annual safety report in such manner and form as is approved. The lack of criteria makes compliance to the requirement subjective.

In NSW, the Rail Safety Act, 2002 in Section 11 prescribes mandatory reporting requirements and railways must,

- (a) describe and assess the safety performance of the railway operations for which the person was accredited during the preceding 12 months, and
- (b) review any significant developments relating to the safety of those railway operations during that period, and
- (c) set out any safety initiatives proposed to be undertaken in relation to the railway operations in the succeeding 12 months, and
- (d) comply with any requirements prescribed by the regulations or contained in guidelines issued by the Director-General under this section.

Observation

It is commendable that the WA rail safety regulator has issued some guidelines to assist in the development of annual safety reports. However, those guidelines do not appear to go far enough in specifying a contemporary reporting regime.

RECOMMENDATION

The current requirements in section 36 requiring the submission of an annual safety report should be expanded and made more explicit. In addition, the current supporting guidelines should be reviewed against the overall findings of this report. The DPI should also consider whether annual safety reports should be subject independent audit and scrutiny prior to submission.

Validated: This section 5.3.5 was validated by comparing the WA legislation with other states.

5.3.6 Public Liability Insurance

Section 8, Clause 1 (d) states, "The Director General must, on application under this Act, accredit an applicant as the accredited owner of a railway if satisfied that the applicant has the financial capacity or public risk insurance arrangements to meet reasonable potential accident liabilities for the railway".

It is presumed that the intent of the Act regarding public liability is to ensure railways have sufficient cover to compensate society in the event of a disaster. However, there appears to be no guidelines against which DPI or railways can assess whether cover is reasonable or commensurate with actual risk exposures. This has the potential to mean that a railway has insufficient cover or it could also result in too much cover, which would create an unnecessary commercial cost burden for the railway.

To test the effectiveness of the Act regarding public liability, four safety management plans were assessed. All four stated that public liability insurance was in place. The current approach adopted in WA is the same as the approach taken by all other states' regulators where it is simply ascertained whether insurance cover exists and, if it does, accreditation is granted, subject to other legislative requirements being met.

Insurance is based on information being provided to insurers "in good faith". Failure to provide accurate information can lead to insurers refusing or limiting claims. Insurers may provide insurance with exclusions e.g. exclude dangerous goods. This could mean a railway does not have cover for actual risks and leave society exposed. In summary, the current processes do not assure the DPI that railways have financial capacity or sufficient public liability cover for all their risks.

RECOMMENDATION

The role of the regulator in assessing financial capacity and public liability insurance needs review and a process for determining appropriate cover should be developed. The regulator should be required to ensure all foreseeable safety risks have been identified and evaluated and provided to an insurance assessor. Furthermore, the terms and conditions of actual insurance provided should be checked to ensure they are commensurate with actual risk exposure and that there are no exceptions or exclusions that potentially create lack of appropriate cover.

Validated: This section 5.3.6 was validated by comparing the WA legislation with other states and comparing Safety Management Plans to ensure the intent of the Act provisions had been applied.

5.3.7 Safety Interface Agreements

There is no specific mention of safety interface agreements in the current WA Act or supporting regulations.

However, it is noted that all regulators recognise the massive growth in contracting and the entry of new operators makes interface management a critical issue.

The WA rail safety regulator has been proactive and has issued guidelines to assist the development of a "Model Interface Coordination Plan" to all railways in an attempt to improve the management of safety critical interfaces. Despite this proactive measure, there is no formal head of power to mandate the requirement.

The NSW Act has recently been significantly changed and now specifically states,

"(1) An applicant for accreditation must:

(a) give to the ITSRR information identifying safety interfaces between railway operations (and the railway to which they relate) for which the applicant seeks accreditation and other railways or railway operations for which other persons are responsible, and

(b) give to the ITSRR particulars of agreements relating to the management of any such safety interfaces (safety interface agreements), and

(c) demonstrate to the satisfaction of the ITSRR that appropriate safety interface agreements are or will be in force in relation to any such safety interfaces.

(2) Without limiting subsection (1), particulars of safety interface agreements relating to private sidings that are connected with or have access to the railway in relation to which the applicant is seeking accreditation as operator are to be provided.

(3) Safety interface agreements entered into by an accredited person must comply with any requirements prescribed by the regulations.

(4) An accredited person must keep a register of current safety interface agreements entered into by the accredited person".

NSW changes were based on the principle that the rail safety regulator requires all railways under their accreditations to manage their interfaces through contracts that identify hazards, allocate them to the party best able to bear them and define dispute resolution procedures. In this way, the safety obligations imposed on the major operators cascade down the contracting process to ensure safe practice across all operations. Interfaces between the major operators must also be defined in this way as they share the same infrastructure.

RECOMMENDATION

The Act should be modified to reflect the importance and criticality of safety interfaces and interface coordination plans should be mandated.

Validated: This section 5.3.7 was validated by comparing the WA legislation with other states.

5.3.8 Accreditation

Railway Owner/Operator

The current philosophy of accrediting railway owners and railway operators is unanimously supported by all stakeholders as being the most appropriate model for regulating the industry. The model used in NSW where designers, maintainers and other contractors can also be accredited is seen as a blurring of accountability and most stakeholders held very strong opinions that this approach should be avoided in WA.

There are some views that the term railway owner causes confusion especially where the asset may be owned by a financial institution or a government owned corridor which is leased to a railway to manage. As an alternative, the term railway manager might better reflect intent.

Most stakeholders expressed a view that the function and role of owners and operators needs to be clarified and strengthened. Accountabilities are discussed in section 5.2.5 and not further pursued here.

5.3.9 Accreditation Fees

A number of stakeholders believe fees and charges are excessive for small heritage type railways and a discretionary clause enabling the regulator to vary charges would be beneficial. It is noted some states have discretionary power and/or accredit without charging a fee. In addition, many stakeholders and the regulator raised numerous administrative issues associated with the accreditation fee process.

RECOMMENDATION

There should be a review of the accreditation fee process which should consider:

- The management of frivolous inquiries;
- The billable hour threshold;
- Fees for variances and modifications;
- Annual end-of-year adjustments and refunds; and
- The capacity of heritage railways to pay fees, including the associated commencement threshold and incremental steps.

5.3.10 Powers

The Act creates considerable accountability for a railway to protect and preserve its infrastructure and operations. Non government owned railways strongly believe that that they have no legislative head of power to enact their accountabilities. For example, no action can be taken against a trespasser or a utility company laying cables on or across the railway. These events have occurred and offending parties have basically ignored the request of the railway to vacate their property. They feel disadvantaged in law when compared to the PTA who, they perceive to have, legislative power through the Government Owned Railways Act, 1904, which makes the act of trespass a criminal offence. The Act also fails to allow a non government railway to recover cost when it has to repair damage created by others e.g. a neighbouring farmer damaging a safety fence.

RECOMMENDATION

There is a need to provide non government owned railways with the same legislative powers as government owned railways to deal with issues such as trespass. In developing those additional powers reference can be drawn from the general rail safety legislation of Queensland and NSW.

5.3.11 Penalties

Penalties Generally

Stakeholder views and opinions regarding penalties are at diametrically opposed and views expressed were:

- Penalties within the Act are believed to be too severe for heritage railways. Despite a \$20,000 fine being a major consequence, it could close the railway an action a regulator wouldn't generally want to enforce and is likely to lead to no action being taken.
- Fines for major commercial and government railways are too low.
- The regulator will not be allowed to shut the government owned railways down.
- In the co-regulatory regime the carrot is always used rather than the stick and as no railway has ever been fined, it is therefore perceived that they never will.
- Fines in NSW have been considerably increased and it can be conceived that there is a total disparity between the states.

In summary there is not enough information available, nor has there been any research, to draw any firm conclusion regarding the value and effectiveness of a punitive system. As such no recommendation can be made.

Penalties Specific to Section 52

The PTA highlighted Section 52 of the Act, which provides penalties for interfering with railway equipment. However, it is unclear as to who has the power to pursue infringements or how the provision would be effected.

Note: Although no recommendation is sought to amend the Act regarding Section 52, there is a need for dialogue between the PTA and the Director General's staff as to how infringements would be pursued.

5.3.12 Employee Accountability

It is also believed by some stakeholders that the Act is biased too much towards management accountability and, although management accountability is accepted, the Act might benefit from also stating employees had certain obligations.

RECOMMENDATION

The DPI should consider introducing a clause in the Act to give effect to obligations of rail safety workers, e.g. to present themselves for work in a safe and fit state.

5.3.13 Information Access

The current Act does not require the Office of the Rail Safety Regulator to produce a safety report or provide safety trend data, although commendably the regulator does issue a document to all accredited railways.

Virtually all stakeholders expressed a view that you cannot improve what you don't measure and the production of national and state safety data trends was an important part of the improvement process and enabled them to benchmark against similar operations.

RECOMMENDATION

The Act should require a rail safety report be produced and, in the interests of community assurance, should be publicly available. Any report should be developed with stakeholders to ensure it is sufficiently detailed to be meaningful and produced in a way that ensures reasonable anonymity exists.

5.3.14 Administrative Improvements

With regard to general administration of the Act, stakeholders raised numerous general areas where improvements could be made, including:

- Creating an indemnity for those that have to apply parts of the Act;
- Changing the term railway employee to railway worker;
- Processes for approval of material change;
- A provision to exclude the regulator from matters that are industrial dispute based, a principle enshrined in OSH legislation;
- Rewording sections 55 and 59 of the Act which are difficult (impossible) to interpret;
- Removing reference to mines in the Act to help clarify what accreditation should apply to;
- Combining of sections 11 and 12 to enable accreditation to be given either permanently or for limited duration or for a limited scope;
- Rewording section 8 of the Act could be clearer in the criteria for accreditation.

RECOMMENDATION

Opportunity should be taken to reword those parts of the Act identified by stakeholders as being ambiguous or confusing.

5.3.15 Investigations

There is often a need for major investigation to be undertaken independently and the Act enables this process to occur. These investigations need to commence as quickly as possible to ensure investigatory evidence is preserved and to enable railways to recommence operations as quickly as possible. Unfortunately, there is conflict between the need to act quickly and the State Procurement Policy which requires tendering processes etc to be observed.

RECOMMENDATION

There is a need to resolve the conflict between the tendering requirements of the state purchasing policy and the need to procure investigatory resources in an expedient manner.

5.4 Stakeholder Issues

The Rail Safety Act is reasonably unique and despite being of major significance only applies to a limited number of bodies; predominantly railway companies who are required by legislation to become accredited as a pre-requisite to operating.

The independent consultants engaged to perform the review and the steering committee charged with overseeing the review discussed how stakeholder input should be obtained and the following three phase approach was determined:

- Firstly, given the unique nature of the Act, the review team hypothesised the general public would have little desire to input into the review. However, it was agreed that it would be a diligent measure to advise the public of the review process by placing an advertisement in the West Australian newspaper, thereby providing an opportunity for anyone to comment if they wished to do so;
- Secondly, all railways currently accredited and other major stakeholders such as trade unions and other regulators were specifically written to and advised of the review process and invited to comment; and
- Thirdly, by specifically targeting 33% of accredited railways and specifically meeting with them to ascertain a representative sample of views.

Note: The steering committee determined that 33% representation was a sufficient and a statistically valid sample size to be representative; especially as all railways had been written to and had opportunity to comment if they so wished.

Issues raised by stakeholders follow.

5.4.1 DIER Tasmania

Mr Greg Almond representing the Department of Infrastructure, Energy and Resources (DIER), Tasmania was contacted 26 July 2004. DIER is the Administrating Authority for Rail Safety in Tasmania and had recently been subjected to an independent audit of their department's effectiveness in regulating rail safety.

The key lesson learnt in Tasmania was the need to better understand regulator accountability in administering their Rail Safety Act. For example, should a regulator become involved in determining specific strategies such as derailment prevention initiatives or should a regulator hold the railway to account for managing derailment risk. The answer depends on whether the regulator operates as a directing mind e.g. accountable for setting tolerable performance levels.

Mr Almond also raised concerns regarding the regulators involvement in Public liability Insurance. This issue has been addressed in Section 5.3.6 and therefore no further recommendation is needed.

5.4.2 Queensland Transport

Mr Greg Ford, Manager Rail Safety Accreditation, Queensland Transport was interviewed 27 July 2004 and offered two specific issues for consideration. Firstly, the Queensland regulator shared the NSW concerns that historically their powers of intervention were insufficient and despite being able to close a railway, they had little real power to require localised improvements or prohibit certain activities.

To address this concern the Queensland Act was changed to enable the regulator issue safety directives. Queensland deliberately decided not to issue improvement or prohibition notices, they believed their power to issue a directive had the same effect. This issue was addressed in Section 5.2.6 and no further recommendation is needed.

Secondly, the Queensland Act was changed to enable the rail safety regulator to arbitrate in disputes between railway owners and railway operators. Queensland appears to be the only state to have legislated for this issue.

The issue was predominantly highlighted by the Queensland Competition Authority (QCA) when looking at commercial issues associated with the Access regime. It was perceived that a rail infrastructure owner could require onerous safety controls, which might be argued as being barriers to entry and, as such, uncompetitive. An example might be to mandate access on the condition that Automatic Train Protection was used.

Given ATP is a safer system, at face value to mandate its use may appear to be logical. However, ATP is not generally or widely used throughout Australia and it could be argued as being an optional control rather than a mandatory system. The QCA believed they would not have sufficient technical experience of a specialist matter to intervene in an access dispute and needed an independent arbiter to provide advice.

In Queensland, it was agreed the rail safety regulator should be that arbiter and accordingly a head of power was created in the Transport Infrastructure Act to accommodate this function.

OBSERVATION

Although it is understood what the Queensland Government were aiming to do in making their rail safety regulator an arbiter of safety, they have arguably blurred accountabilities by this approach. If a third party operator wishes to pursue an anti competitive claim via the competition authority they have every right to do so. The competition authority could ask the rail safety regulator for advice prior to making a decision but this could all occur without changing rail safety legislation. A parallel argument could be an industrial dispute, where an industrial commissioner also seeks advice of the rail safety regulator prior to making a decision. However, the Queensland Act was not changed to reflect the regulator being an arbiter in industrial issues.

RECOMMENDATION

The DPI should consider whether disputes between railway owners and operators on safety matters is a potential issue in WA and, if it is, whether the Queensland model of allowing the rail safety regulator to arbitrate is a best practice solution that needs to be legislated for.

5.4.3 Pacific National

Mr David Edwards, Executive Manager Safety, Pacific National was interviewed 3 August 2004 and offered the following comments. Generally, Pacific National is supportive of the existing Act, but welcomes the review to ensure that it remains relevant and responsive to the needs of the rail industry and the WA community.

Pacific National remains a strong supporter of the WA, SA, Tas, and NT rail safety legislative model (based upon the original SA Act).

In particular, PN suggests the retention of the accredited "rail operator and track manager" model, and would lobby against any inclusion of rail industry "suppliers" or "contractors" as accredited organisations.

The current Act supports (in its application) the industry preferred "co-regulatory" model and PN would suggest that the revised Act would be improved by "requiring" the maintenance of a "co-regulatory" model of rail safety regulation in WA. This subject was discussed in section 5.2.1 and is not pursued further here.

In relation to the investigation of "major" or "significant" rail safety incidents, PN suggests that the WA Act call up the Commonwealth Transport Safety Investigation (TSI) Act and (under an IGA) have the ATSB conduct or coordinate all WA "major" or "significant" rail safety incidents. Pacific National did acknowledge that the WA rail safety regulator has used the services of the ATSB on several occasions in the past.

Note: As Commonwealth legislation overrides state legislation the need to refer to the TSI Act will depend on legislative assembly protocol eg is it convention to list superior Commonwealth legislation in State Acts.

In relation to fees, PN suggests that the revised Act reflect the generic annual accreditation fee model being developed by the joint rail safety regulators. Specifically, PN strongly suggests the removal of the current fee charge for "Variance Applications". This existing fee if maintained could be counter productive as it may create an environment of "non-reporting" of variance applications etc. This subject was discussed in section 5.3.9 and is not pursued further here.

In summary and acknowledging improvements can always be made, Pacific National supports the existing Act and has been satisfied with its content and the professional and co-regulatory manner in which it has been applied through the WA office of rail safety.

5.4.4 Passenger Transport Authority

Sue McCarrey of the Public Transport Authority (PTA) was interviewed 3 August 2004 and Mr Bernie Martinovich and Mr John Robertson were interviewed 12 August 2004. In addition, Reece Waldock, the PTA Chief Executive Officer provided a written submission, dated 1 September 2004. Generally, the PTA is supportive of the existing Act, but welcomes the review and offered the following comments.

The PTA strongly believes there is a need to retain the concept of railway owners and operators and their associated accountabilities for rail safety. They would not like to see a situation where contractors and manufactures become accredited and are perceived to carry principal accountability for the railway as a result of being accredited. However, the PTA also believes the role of the regulator was not entirely clear and there would be considerable benefit to specific statements of the role being defined. As this issue was addressed in Section 5.2.5 no further recommendation is needed here.

The PTA could see benefit to some of the changes made to the NSW Act being applied in WA for example acknowledging the regulator needing a wider range of powers of intervention and enforcement. As this issue was addressed in Section 5.2.6 no further recommendation is needed here.

The PTA also suggested there was a need to provide the industry with good safety data and other global information such as accident findings in order that benchmarking could be performed and benefit be gained from the learning's of others. As this issue was addressed in Section 5.3.13 no further recommendation is needed here.

A key issue of concern expressed by the PTA was the confusion within the industry as to how the Act is complied with. There is a strong perception that that the Act mandates AS4292. However, the PTA believe, a railway with a good ISO quality assured management system meets the intent of the Act. As long as that system clearly relates to the railways actual risk profile and clearly defines the detailed standards that are to be observed, including those mandated industry related standards.

The PTA further believe a key benefit to the quality assured process is that it is independently audited for compliance and the audit findings could be used by the regulator, rather than the current system of separate audits, which incurs substantial cost, time and duplicated effort.

It is noted the recent changes to NSW Rail Safety Act enables the process outlined by the PTA to be observed, in that it requires risk to be managed and allows the railway to determine how, without mandating AS4292. As AS4292 was addressed in Section 5.3.1 no further recommendation is needed here.

The PTA believes the "rail safety work" definition causes concern in an operational context. They believe there is confusion as to when construction of a railway commences eg does it include earthworks on a Greenfield site? The PTA also believes there is similar confusion with the use of the word "design" in the context of rail safety work eg is it the design of earthwork or the design of the rail infrastructure?

With regard to utility service work on or about the railway, the PTA believes there is confusion as to where authority for approval resides. Section 30 of the Act relates to work near a railway. However, the Act only overrides the Government Owned Railways Act, 1904 and the Public Transport Authority Act, 2003. Therefore, for example, it is unclear whether Western Power needs approval to work on a railway or whether they perceive they have authority through their associated legislation. As "rail safety work" was addressed in detail in Section 5.3.2 no further recommendation is needed here.

The PTA highlighted Section 52 of the Act, which provides penalties for interfering with railway equipment. However, it is unclear as to who has the power to pursue infringements or how the provision would be effected. Although no recommendation is sought to amend the Act, there is a need for dialogue between the PTA and the Director General's staff as to how infringements would be pursued.

A further key issue of concern expressed by the PTA was the confusion regarding the processes associated with managing change, and the need for regulator approval for material change. The PTA expressed an opinion that decisions on what is considered material (or significant) by the Office of the Rail Safety Regulator is not risk based or objectively determined. Their preference would be for the regulator to give clear guidelines on what is a material change so that there is greater clarity on what changes need approval prior to implementation. Minor change should be managed by change management control processes, with compliance to the change processes being subject to audit.

It was noted the regulator has issued guidelines regarding management of change. However, the intent of the guidelines appears not to be understood throughout industry generally at local management level where most change is effected. Further communication and discussion between parties would be beneficial and redress perceptions.

5.4.5 Rail Tram & Bus Union

Mr Bob Christison of the RTBU was interviewed 10 August 2004 and raised some issues and concerns. The RTBU also provided a written submission, dated 21 September 2004.

In essence, the RTBU is seeking a higher standard of safety delivered through stronger safety management plans and greater regulator independence.

The RTBU have a major issue with the concept of co-regulation, they believe that the government should regulate and determine performance requirements. They should be seen as a strong regulating force, rather than mediating issues to end up with compromised solutions.

The RTBU has respect and support for the current rail safety regulator, however, the lack of defined responsibilities means that the role is performed against the values of the appointed incumbent(s) making the performance of the regulator subjective. Defined criteria of what the regulator should be doing would allow unambiguous measurement of their performance. For example if the rail safety regulator's role includes that of research and development to support a strategic rail safety plan, then resources can be anticipated and performance can be measured against the objectives.

The RTBU questioned the role of the rail safety regulator in terms of:

- Is it to determine a strategic rail safety plan for the next five years?
- Does it perform research into technical safety matters?
- Is it responsible for providing rail safety statistics to the public?
- Should it determine safety performance targets?
- Should it arbitrate in safety disputes?

The RTBU have stated that the lack of definition of role and responsibility has meant that they are forced to raise concerns with ministers and a number of regulators. As this issue was addressed in Section 5.2.5 no further recommendation is needed here.

The RTBU stated that the huge quantities of dangerous goods carried by railways create a substantial inherent rail safety risk that is not appropriately regulated under the Act. As this issue was addressed in Section 5.2.2 no further recommendation is needed here.

The RTBU feel strongly about the current Act not requiring consultation of employees and employee representatives. They would like the Act to be changed to require union involvement in the development of accredited safety management plans and material changes to those accredited plans. The RTBU also seek involvement in a range of other issues including:

- Competency based training and qualifications;
- Independent registration of accredited rail workers;
- Standards for train crew hours and conditions;
- Extra investment in train communication systems;
- Extra investment in train control systems such as end of train monitoring systems;
- Improved use of statistics and safety indicators;
- National standards for train radio communications systems;
- Granting public access to accredited safety management plans; and
- Ensuring a “no self-incrimination” process for rail workers during investigations.

OBSERVATION

There appears to be a need to better understand the function, role and involvement of unions in “rail safety” matters. Occupational Safety and Health legislation requires employee involvement and other employment legislation provides means for resolving disputes between employers and employees. As such, it could be argued that employee entitlements and the need for involvement are already adequately covered. However, it could equally be argued that as occupational safety and rail safety are different issues; governed by separate legislation, the involvement of employees (or their representatives) is not covered in matters of rail safety, particularly where rail safety is controlled through nationally developed standards. Some of the confusion appears to be created by a lack of understanding of what rail safety means and the lack of clarity regarding the accountability of the regulator which have been discussed in Sections 5.2.2 Scope and 5.2.5 Accountabilities.

RECOMMENDATION

The DPI should consider whether obligations contained in OSH legislation to involve employees and their representatives be adopted in the Rail Safety Act.

5.4.6 Pemberton Tramway and Hotham Valley Railway

Mr Ian Willis representing the Hotham Valley Railway and the Pemberton Tramway Company was interviewed 11 August 2004. Mr Willis believes the current Act is generally effective but has a major problem with the Act prescribing Australian Standard AS4292, a standard not suitable for heritage railways. It is noted that Mr Willis's view regarding Australian Standard AS4292 is an issue that has substantial support throughout the industry and with regulators generally. The Victorian government have publicly indicated they are prepared to consider a different approach for heritage or small railways; a matter they will research. It is also interesting to note that some states do not prescribe Australian Standard AS4292 and allow railways to demonstrate how they manage in a way commensurate with their specific risk exposures.

There is confusion as to what rail safety means as opposed to OSH safety, this is a view shared by nearly all stakeholders and the Act would be improved by defining rail safety. This matter has been discussed earlier in the report and is not progressed further here.

Another major concern is that the Act creates considerable accountability for a railway to protect and preserve its infrastructure and operations but provides no legislative head of power for a railway to enact their accountabilities. For example, no action can be taken against a trespasser or a utility company laying cables on or across the railway. Mr Willis has actual experience of these events occurring and offending parties have basically ignored the issue. The Act also fails to allow a railway to recover cost when it has to repair damage created by others eg a neighbouring farmer damaging a safety fence or crossing.

Penalties within the Act are believed to be too severe for heritage railways. Despite a \$20,000 fine being a major consequence, it could close the railway; an action a regulator wouldn't generally want to do and is likely to lead to no action being taken. Mr Willis suggested fines should be applied on a basis of "up to an amount" with the regulator exercising discretion. He believed a small fine would be more likely to be imposed and therefore have far greater effect.

Fees and charges are believed to be excessive for small heritage type railways and a similar discretionary clause enabling the regulator to vary charges would be beneficial. It is noted some other states have discretionary power and sometimes charge a "zero fee"

Mr Willis believed the Director Rail Safety should be accountable for regulating under the Act rather than the Director General.

It is also believed that the Act is biased too much towards management accountability and, although management accountability is accepted, the Act might benefit from also stating employees had an obligation to present themselves for work in a safe and fit state.

With regard to accountabilities, Mr Willis believes the regulator should set benchmark levels of performance, an activity that could involve a degree of research. Mr Willis gave a good example of needing help to ascertain advice on using locomotive horns at crossings, advice the regulator couldn't provide but, in Mr Willis' view should have done.

As all the matters raised by Mr Willis have been discussed in section 5.3.8 of the report they are not progressed further here.

5.4.7 Pilbara Rail Company

Mr Geoff Neil and Mr Tony Peterson of the Pilbara Railway Co. were interviewed 11 August 2004. The Pilbara Railway do not have any problems with the current Act, however, they would have concerns if the Act were to become very prescriptive.

The Pilbara Railway is very proud of their safety culture, management systems and safety performance record. Their systems and associated achievements were established when the Pilbara Railway was governed by the Mines Safety Inspection Act, 2002. That Act was not prescriptive, rather outlining a framework that required safety to be ensured.

The Pilbara Railway believes regulatory intervention should be risk based and intervention is only required for non-performing railways.

In their view the Act should:

- Outline a management framework and essential requirements;
- Set objectives; and
- Clarify accountabilities.

No further recommendations are made here.

5.4.8 WestNet

Mr Tim Ryan and Mr Vic Bliss representing WestNet were interviewed 12 August 2004 and raised the following issues.

WestNet were generally accepted of the current Act. They were also particularly pleased with the co-regulatory approach used by the current Director Rail Safety.

WestNet would prefer a single national approach to rail safety management which includes a national regulator and national legislation.

The role and function of the regulator should be explicitly stated and in WestNet's view the regulator should:

- Determine strategic framework;
- Acknowledge the railway's as being accountable for rail safety;
- Measure performance of those areas that are of public interest e.g. level crossing safety; and
- Prescribing certain safety critical controls e.g. drug and alcohol testing regimes.

As accountabilities have already been discussed in section 5.2.5 no further recommendation is made here.

WestNet were strongly of the view that management standards, particularly Australian Standard AS4292, should not be prescribed. They believe that risk management approach is essential with railways determining means of control, which may include industry standards and codes where these are relevant. However, a railway has a non-delegable obligation to ensure safety and must retain the right to determine how they need to control risk e.g. American FRA standards maybe much more suitable for certain activities than Australian Standards. As this matter is discussed in section 5.3.8 no further recommendation is made here.

WestNet believe the role and accountabilities of regulators, railway owners and operators needs to be better defined. They also support the view that track manager maybe a better term than owner, as the term owner can be confusing. As this matter is discussed in section 5.2.5 no further recommendation is made here.

With regard to administration of the Act, they believe that improvements could be made to:

- The term railway employee, preferring railway safety worker instead;
- Processes for approval of material change, which they currently believe to be onerous and not risk based; and
- Including a provision to exclude the regulator from matters that are industrial dispute based, a principle enshrined in OSH legislation.

As these matters are discussed in section 5.3.14 no further recommendation is made here.

WestNet were asked their views on the changes that have occurred to the NSW Rail Safety Act. They believe the risk based approach has merit and is supported. With regard to intervention, although they believe in open channels and dialogue, which generally work, they also see merit to formal notices being issued on occasion as notices force the regulator to clearly document the issue to be rectified, the action required and timescales for action. As this matter is discussed in section 5.2.6 no further recommendation is made here.

5.4.9 Perth Electric Tramway Society

Mr Michael Stukely, Mr Lindsey Richardson and Mr Dave Brown of the Perth Electric Tramway Society were interviewed on 12 August 2004. The Perth Electric Tramway Society also provided a written submission, dated 23 August 2004. A summary of their comments are provided below.

The Perth Electric Tramway Society consider the Act and Regulation does not take into account the small, simple and low risks operations, i.e. they operate in a park at low speed with low axle weight trams. They strongly recommend small heritage bodies should be exempt from the Act.

Relative to a conventional railway their risk is negligible. They have difficulty complying with Australian Standard AS4292 which despite being prescribed in the Act was never developed for an operation such as the Perth Electric Tramway Society. By prescribing Australian Standard AS4292 the cost of compliance to the Act and Regulation appears grossly disproportionate to the safety benefit and original aim of the Act.

The Perth Electric Tramway Society considers the accreditation fee structure is inequitable in comparison to train operations and not applied being applied to a consistent national standard. They have evidence that similar interstate organisations operate free of accreditation fees.

The Perth Electric Tramway Society believes the Act does not take account of the management structure of volunteer organisations that are incorporated under the Associations Incorporation Act, an Act which acknowledges accountability residing with a managing committee rather than an individual eg a CEO reporting to a Board.

OBSERVATION

Heritage railways perceive they provide a valuable community service and help preserve the nation's heritage. The smaller ones generally depend upon volunteer support for their existence. It is entirely conceivable that the effort involved in complying with the requirements of the Act and prescribed standards is counter-productive and that scarce resources (human and monetary) are possibly being diverted from essential maintenance and operating activities to fund compliance requirements. The current Act also requires the payment of accreditation fees, which maybe considered minor in absolute terms, but are substantial relative to revenue.

RECOMMENDATION

There should be a review of risk associated with heritage type railways to determine whether the Act needs to include such operations. The review should consider the range of risk exposures created by the differing heritage operations and the actual cost and benefit associated with complying with the regulation from both a railway and regulatory perspective. In addition, and, if in the long-term, heritage railways continue to be covered by the Act, the definition of "accredited person" would need further amending to reflect the accountability of a managing committee rather than an individual as outlined in the Associations Incorporation Act.

5.4.10 Australian Railway Historical Society

Mr Ian Studham of the Australian Railway Historical Society provided a written submission, dated 23 September 2004. A summary of comments is provided below.

The Australian Railway Historical Society believes the Act places a heavy administration burden on them, a burden that will increase with the introduction of new codes of practice. As this concern was discussed in section 5.4.9 no further recommendation is made here.

The Australian Railway Historical Society raised the issue of differences between states regarding rail safety regulation. They raised the Victorian category of “accredited rollingstock provider” and ask whether such a category could be considered in WA. As this matter is already being addressed nationally and as a recommendation to review the risk of heritage railway operations has already been made in section 5.4.9 no further recommendation is made here.

The Australian Railway Historical Society also raised a particular concern regarding a regulator imposed condition on the use of a shunting tractor. The specific issue raised appears to be an appeal of a decision and is outside the scope of the review of the Act, however, the ARHS should be advised the current Act allows for decisions to be appealed, a process they should be encouraged to follow.

5.4.11 Association of Railway Preservation Groups

Mr Lindsay Watson of the Association of Railway Preservation Groups provided a written submission, dated 22 September 2004. A summary of comments is provided below.

The Association of Railway Preservation Groups believes the Act places a heavy burden on heritage railways. As this concern was discussed in section 5.4.9 no further recommendation is made here.

The Association of Railway Preservation Groups also raised the issue of national inconsistencies in the accreditation process. As this matter is already being addressed nationally and as a recommendation to review the risk of heritage railway operations has already been made in section 5.4.9 no further recommendation is made here.

The Association of Railway Preservation Groups raised a range of additional issues regarding the need for support and help in matters such as funding to develop skills, regulator attendance at ARPG meetings and regulator flexibility by working weekends when heritage operations mainly occur. These issues, although important are outside the scope of the review of the Act, however, the ARPG should be encouraged to have dialogue with the regulator to discuss these points.

5.4.12 Department of Consumer and Employment Protection

Nina Lyhne, WorkSafe Western Australia Commissioner provided a written submission, dated 30 September 2004. A summary of comments is provided below.

The overlap between the OSH Act, 1984 and the Rail Safety Act were acknowledged as having the potential to cover similar issues in different ways. Despite this unavoidable overlapping, WorkSafe believe the respective Acts need to remain focused with the Rail Safety Act concentrating on rail safety rather than worker safety which is covered by the OSH Act. WorkSafe also suggested care should be taken with any proposed changes to the Rail Safety Act need to ensure they do not lead to unintended consequences on the application of the OSH Act.

WorkSafe also highlighted a particular anomaly that existed within mining type railways. The anomaly occurred because The OSH Act does not apply work carried out in mines as they were governed by the Mining Act 1978 and the Mines Safety and Inspections Act 1994; these Acts meet the intent of the OSH Act. When the current Rail Safety Act commenced in 1999, the legislative package included a consequential amendment to section 7 of the Mines Safety and Inspection Act, which stated the MSI Act ceased to apply to railways to which the Rail Safety Act applied.

Technically, this could leave the railway operations of a mining railway without a legislative requirement for generic OSH principles to be observed. This is because that railway would be exempt from the OSH Act because it was a mine and also exempt from the safety principles of the MSI Act because it was an operating railway covered by the Rail safety Act. WorkSafe suggest the amendment to section 7 of the MSI Act be reversed.

OBSERVATION

The technical deficiency within mining railway operations could also be addressed by establishing OSH principles within the Rail Safety Act.

RECOMMENDATION

Any proposed changes to the Rail Safety Act should be developed in conjunction with WorkSafe to ensure there is no unintended consequence on the application of the Occupational Safety and Health Act.

Validated: This section 5.4 was validated by quality control checking of meeting notes and the written submission to verify Stakeholder input was appropriately represented.

5.5 Current Performance and Effectiveness of Rail Safety Act

The current performance and effectiveness of the Rail Safety Act was evaluated in four ways:

- By a cursory assessment of a sample range of current accredited safety management plans and comparing the standard of those plans against contemporary expectations;
- By assessing a sample range of annual safety reports submitted by current accredited railways;
- By evaluating current safety performance in WA and benchmarking that that performance with other states; and
- By reviewing supporting regulations and directions issued in support of the current Act.

5.5.1 Assessment of safety management plans

Four safety management plans of current WA accredited railways were subject to a cursory review to help a judge the operational effectiveness of the Act. The four plans represented two large and two small railways but otherwise were selected at random.

The safety management plans were assessed against four criteria:

- Did they succinctly describe the safety management system?
- Was safety risk described and were the risks commensurate with perceived operations?
- Were safety accountabilities assigned and appropriate? and
- Did they demonstrate organisational competence?

The review found that the four safety management plans assessed were of a similar standard to safety management plans generally submitted across Australia, although none of the plans reviewed represented best practice.

It was noted that the two plans representing small railways were reasonably good. The quality of the smaller railway plans appears to relate to the guidance and support given to those railways by the regulator who, commendably, has issued a guideline document to the smaller heritage type railways in an attempt to help them comply.

The quality of safety management plans is an issue being addressed nationally and a draft "National Rail Safety Accreditation Package" was issued to the industry by regulators in April 2004. The National Rail Safety Accreditation Package is a 58 page document that outlines the contemporary thinking and expectations of regulators. This document imposes considerable obligations on those railways that have less than contemporary accreditation applications. The enormity of change that will emerge if the National Rail Safety Accreditation Package is accepted is substantial and suggests that nationally, regulators are seeking considerable improvement in the quality of safety management plans.

In general terms the key components of the National Rail Safety Accreditation Package are:

- To reinforce the requirements of AS4292;
- Greater emphasis on risk;
- Greater emphasis on change management and change control;
- Formalises the need for an annual safety report;
- Governance link to Board's and CEO;
- Requires a passenger security plan; and
- Requires contracting and pre contract arrangements.

The National Rail Safety Accreditation Package appears to be a major step forward and, if adopted and complied with, will substantially lift the quality safety management plans. The National Rail Safety Accreditation Package does not appear to go as far as the requirements imposed by the UK Safety Case approach, which is believed by some regulators to represent best practice. It is noted that the Victorian government has issued a discussion paper seeking industry views on the safety case model. The reason the UK (best practice) model is not being adopted by regulators in Australia is not clear nor is it a matter for this review.

In summary, although current safety management plans are generally of a similar standard to plans submitted in Australia generally, they do not represent best practice and they could be substantially improved.

RECOMMENDATION

There should be a review of accreditation process and expanded guidelines should be issued that clearly articulate the accreditation acceptance criteria. The review should also consider the competence and capability requirements both railways and regulator employees involved in the accreditation process.

5.5.2 Assessment of annual safety reports

A range of WA submitted annual safety reports for both small and large organisations were subject to a cursory review to test the operational effectiveness of the Act. Six railways were selected at random to representing large, small and interstate railway companies.

The annual safety reports were assessed against four criteria:

- Performance and Trends;
- Key Risks and Mitigation Initiatives;
- Challenges and Successes; and
- Strategic Direction.

Four of the reports, representing railways accredited in WA, failed to provide any meaningful information regarding safety performance. Two of the reports, representing mutually accredited interstate railways, were of a good standard and provided substantially useful information. However, these were written from a national perspective and did not provide WA specific information.

This subject was discussed in Section 5.3.5 and no further recommendation is made here.

5.5.3 Evaluation of safety performance

Safety performance was evaluated by performing a cursory analysis of strategic measures. It should be noted that this analysis was not a major statistical exercise rather a toe-in-the-water approach to give a broad indicative feel.

It should also be noted that rail safety data is not generally publicly available, and the data that is available is often captured against differing criteria and definitions. As such, and at best, the results should be seen as indicative rather than a precise or accurate.

Five years of data was used covering the financial years 1999/2000 to 2003/2004 inclusive.

To understand the relative value of the safety performance results a risk tolerability principles were used where applicable. Risk tolerability is not generally used in WA. Risk Tolerability was discussed in detail in section 5.2.4.

Passenger Safety

There were no passenger deaths as a result of train operations or railway activities in the five years assessed. However, it was noted that two passenger deaths were recorded as a result of suspected suicide.

Note: Although suicides are tragic events, they generally relate to societal issues and are deemed to be outside the normal control of railways. As such, they are counted separately to prevent them distorting the operational safety performance of railways.

The lack of passenger deaths is a commendable achievement and should not be understated. In the five year period analysed in excess of 130 million passenger journeys were made and although we do not accept deaths or major injuries, we have to face the fact a risk exposure does exist. A risk tolerability framework (based on international performance criteria) would assume a risk exposure of one fatality per 50 million passenger journeys theoretically exists. Accordingly, with 130 million journeys, international criteria suggest 2.6 deaths could have occurred. As such, when we measure actual performance against probable risk exposure, the lack of passenger deaths is a noteworthy achievement.

Public Safety

A risk tolerability framework generally assumes a public death could occur at a rate of one per million of population; about the same level of risk of being struck and killed by lightning.

In the five years assessed there were 18 public deaths as a result of trespass or level crossing accidents. That equates to an average public fatality rate of 1.8 per million of population; higher than the tolerability benchmark.

Generally, in a railway environment, public deaths are evenly split between accidental deaths caused by persons trespassing on the track and deaths at level crossings. This means that a tolerable rate of one death per million of population can be further broken down to 0.5 deaths per million of population in each sub-category (trespass and level crossing).

In the five years assessed there were 8 accidental deaths as a result of trespass, a rate of 0.83 per million of population (higher than 0.5).

There were also 10 public deaths at level crossings, a rate of 1.03 per million of population.

Regarding level crossings and given the relatively low number of deaths e.g. on average two per year, we need to ensure the level crossing fatality rate is a genuine reflection of a heightened risk rather than a statistical deviation associated with a small sample size. To do this level crossing accident numbers were also assessed as events rather than just looking at fatality outcomes.

In the five years analysed there were 75 level crossing accidents, a rate of 0.83 per million train kilometres. This rate is perceived to be higher than other states and, therefore, is probably a reflection of a heightened risk rather than statistical deviation.

Operational Safety

Passenger train derailment rates are commendable and at a rate of 0.06 per million of population is perceived to be about half that of other states generally e.g. twice as safe.

Passenger train signal passed at danger rates are 1.96 per million train kilometres. Benchmarking of signals passed at danger is generally difficult because of the vast differences in detection methods e.g. some railways have computerised signalling with all SPADs detected and others rely on driver reporting only. Those that rely on driver reports generally suffer from under reporting. The UK railways are generally considered to represent best practice and their rates of 0.86 suggest opportunities to improve exist in WA if world's best practice was desired. In Australia best declared rates are generally around 1.1.

Freight train signal passed at danger rates, at 0.69 per million train kilometres are very commendable; most railways in Australia and internationally, exceed a rate of 2.0.

Freight train derailment rates are 1.98 per million train kilometres, which although tolerable are higher than most other states, with a rate of 1 per million being perceived as good.

In summary, in overall terms rail safety performance in WA is generally sound and sometimes commendable. There have been no passenger deaths as a result of train operation for five years, a result rail users should justifiably be proud of. The current biggest risk in WA is public safety at level crossings, and opportunities for improvement exist in this category.

There is little use of risk tolerability frameworks which means current monitoring is a little subjective. As this subject was dealt with in section 5.2.4 no further recommendations are made.

5.5.4 Review of supporting regulations

Schedule 1 of the Act outlines a range of subject matters for regulation. Audit reveals the current Regulations do not cover all the subject matter contained in Schedule 1.

The subject matter contained in Schedule 1 does not accurately reflect actual risks categories of the railway industry nor does it allow for future contemporary risk management issues to be regulated for.

For example, emergency management and incident response is a basic component of any management system but not a matter covered by Schedule 1.

It is perceived that the current Schedule 1 creates unnecessary limitations rather than enabling contemporary matters to be regulated for.

RECOMMENDATION

The list of regulations that can be made in Schedule 1 of the Act should be deleted. In addition, Section 61 of the Act should be amended to a generic statement that permits regulations to be made for matters that reduce the risk of passenger, public or employee injuries or to improve the operational performance of a railway.

5.6 Risk Assessment

A range of strategic risks were identified as part of the review process.

Each risk is discussed below along with a brief description of the risk, the cause of the risk, current risk controls and recommended future treatments.

Risks were assessed from the regulator's perspective and do not purport to be a complete representation of operational railway risks.

5.6.1 Infrastructure risks

Risk

Accidents caused by the existence of latent failures within railway infrastructure.

Cause - Regulator approved management system for rail infrastructure which is substandard for task the operational task performed.

Current Controls - Accreditation process.

RECOMMENDATION

The railway owner should be required to produce an annual certificate which verifies the rail infrastructure has been assessed against the operational task and is maintained to industry standards.

Furthermore, the infrastructure condition should be monitored and reported to the regulator at least annually in overall terms along with the details of any infrastructure deemed to be substandard. If substandard infrastructure exists, details of the risk controls are to be provided for that substandard infrastructure.

5.6.2 Rollingstock risks

Risk

Accidents caused by the existence of latent failures within rollingstock.

Cause - Regulator approved management system for rollingstock which is substandard for task the operational task performed.

Current Controls - Accreditation process.

RECOMMENDATION

The railway operator should be required to produce an annual certificate which verifies the rollingstock is commensurate for the operational task and is maintained to industry standards.

5.6.3 Safeworking risks

Risk

Accidents caused by the existence of latent failures within safeworking system.

Cause - Regulator approved management system for safeworking which is substandard for task the operational task performed.

Current Controls - Accreditation process.

RECOMMENDATION

The railway owner should be required to produce an annual certificate which verifies the safeworking system has been assessed against the operational task and complies with industry standards.

5.6.4 Interface risks

Risk

Latent system failures exist due to interface risks not being understood.

Cause - Accountabilities for interface management not defined leading to a failure to identify, evaluate and manage shared risks.

Current Controls - Not currently specifically controlled.

No additional recommendation is made as this subject matter was also dealt with in section 5.2.5.

5.6.5 Regulator performance

Risk

Regulator challenged for not diligently performing regulatory role.

Cause - Accountabilities of regulator not clearly defined.

Current Controls - Accreditation process.

No additional recommendation is made as this subject matter was also dealt with in section 5.2.5.

5.6.6 Safety management plans

Risk

Regulator accepts safety management plan that does not meet contemporary standards or address actual risk exposures

Cause- Regulator failing understand railway risks and therefore not being able to diligently perform accreditation process.

Current Controls - Accreditation process.

RECOMMENDATION

There should be a review of accreditation acceptance process to ensure submitted safety management plans are of a contemporary level and reflect best practice.

5.6.7 Insufficient financial resources or insurance

Risk

Regulator accredits railway with insufficient financial resources or insurance to meet foreseeable risk exposures.

Cause - Accountabilities of regulator with regard to public liability insurance not clearly defined.

Current Controls - Accreditation process.

RECOMMENDATION

No additional recommendation is made as this subject matter was also dealt with in section 5.3.8

5.6.8 Misleading information

Risk

Regulator perceived liable for accrediting railway based on wrong information.

Cause - Railway provides incorrect or deliberately misleading information.

Current Controls - None.

The review highlighted differences in the Victorian Transport (Rail Safety) Act, 1996, which in Section 126 states,

(The Secretary has) no liability for accrediting or maintaining the accreditation of any person.

The UK adopts a similar stance and the Rail (Safety Case) Regulations, 1994 states,

"HSE Acceptance does not guarantee safety or diminish duty or transfer duty to the regulator".

RECOMMENDATION

An additional clause should be provided in the Act stating the Director General has no liability for accrediting or maintaining the accreditation of any person nor does accreditation guarantee safety or diminish duty or transfer duty from the accredited person to the Director General.

5.6.9 Regulator independence

Risk

The position of regulator within government structure restricts ability to perform independently.

Cause - Latent system hazards tolerated due to pressure or funding shortfalls.

Current Controls - Degree of independence within department.

RECOMMENDATION

The WA government should review whether the position of regulator within the current government structure restricts ability to perform independently. The review should consider the approach taken in NSW.

Validated: This section 5.6 was validated by the Risk & Safety Consultancy Group assessing regulator risks.

6. Summary of Recommendations

1. In addition to this review of the Act there should be an additional assessment of complementary transport safety legislation and regulation. That assessment should consider the need to provide non-government owned railways with the same legislative powers as government owned railways for offences that compromise rail safety and to ensure the regulator has sufficient power to exercise their task e.g. powers of entry and powers to curtail activities etc. *Reference Section 5.1 of the report.*
2. There is a need to determine the preferred regulatory model used to administer rail safety in WA in order that the aim of the Act can be appropriately articulated. As a minimum, the aim of the Act should be, "To promote the safe construction, operation and maintenance of railways and to seek demonstrated continuous improvement in rail safety performance". The Act should also be amended to enshrine an additional obligation (legal duty) to ensure the rail safety. *Reference Section 5.2.1 of the report.*
3. The relationship between the Rail Safety Act, the Occupational Safety and Health Act, 1984 and Dangerous Goods legislation should be reviewed and documented. In addition, the term "Rail Safety" should be specifically defined to prevent ambiguity with OSH legislation. *Reference Section 5.2.2 of the report.*
4. The Act should be modified to include security, a term that will also need to be defined. It is essential that any definition used relates, as a minimum, to those security events that lead to a rail safety deficiency rather than including matters such as graffiti, which although a security breach, may not lead to a rail safety deficiency. *Reference Section 5.2.3 of the report.*
5. The term safe (or safety) be defined in the Act and it should be explicit that safety is not an absolute state, rather there should be an acknowledgement that risk should be managed to levels that are as low as reasonably practicable. Furthermore, a risk tolerability framework should be determined by the WA rail industry to underpin the risk management concept. *Reference Section 5.2.4 of the report.*
6. The accountabilities of the regulator, railway owners and railway operators be reviewed and explicitly defined. *Reference Section 5.2.5 of the report.*

7. The Act should be modified to reflect the principles of Health & Safety Legislation, particularly with regard to risk, management accountability and the provision of improvement or prohibition notices. This change would be in line with the current NSW Act and be a reflection of best practice. To prevent confusion with OSH legislation, safety directives could be used as an alternative to notices, this would be in line with the Queensland approach.

Additionally, the use of the hierarchy of control principle used in OSH legislation should also be mandated.

Furthermore, the Act should be amended to assign formal accountability to the Director Rail Safety for regulating rail safety. *Reference Section 5.2.6 of the report.*

8. It is recommended that the current definition of Australian Rail Safety Standards be reviewed and either withdrawn or, if retained, modified to reflect a simpler generic definition. *Reference Section 5.3.1 of the report.*
9. The current "Rail Safety Work" definition should be reviewed to provide greater clarity of intent and to determine whether the Act applies to all railway employees or limited to those employees working on or about the track or engaged in critical work. The review should consider the definition of rail safety work used in NSW and create an alignment with the AS4292 definition of "rail infrastructure".

The review should also consider whether work performed by utility service providers is "rail safety work" and, if so, whether the work needs approval of the accredited owner. If accredited owner approval is required, it is likely that the Act needs to be given precedence over utility service provider legislation. If it is determined accredited owner approval is not required the definition of rail safety work should specifically exclude work performed on or about the railway by utility service providers to prevent ambiguity of accountability. *Reference Section 5.3.2 of the report.*

10. Greater accountability should be assigned to specific individuals and directors by creating a new term "Accredited Person" and defining that accredited person as being accountable for the accredited system. Accredited persons should also include all officers of an organisation, in line with OSH Legislation. *Reference Section 5.3.3 of the report.*

11. The current employee capability requirements contained in section 31 should be substantially reviewed and significantly enhanced to reflect the significant risks associated with certain safety critical tasks. Given the risk exposure associated with safety critical employees e.g. the Glenbrook and Waterfall train accidents and given the depth of subject matter covered in Section 31, it is likely that there would be benefit in breaking the section into discrete standalone sections e.g. employee competence, alcohol and drugs, health assessment and fatigue.

For those safety critical functions, the Act should explicitly use the term "ensure" in preference to taking reasonably practicable steps. With ensure being used in the context of an imposed duty to guarantee.

With regard to employee competence the Act should consider mandating formal certification for persons engaged in critical activities such as train driving, train control, signal design and certifying rollingstock or infrastructure prior to operational use.

With regard to alcohol and drugs the requirements of the Act needs to be more specific and be complemented with detailed supporting regulations along the lined of those used in NSW.

With regard to health assessment the Act should require stringent medical fitness standards for those employees engaged in critical activities such as train driving or other functions where passenger or public lives are at risk as a result of the existence of medical conditions.

With regard to fatigue the Act should require accredited fatigue management programmes for safety critical workers line with the NSW Rail Safety Act, 2002 or the contemporary models used in the mining industry or road transport. *Reference Section 5.3.4 of the report.*

12. The current requirements in section 36 requiring the submission of an annual safety report should be expanded and made more explicit. In addition, the current supporting guidelines should be reviewed against the overall findings of this report. The DPI should also consider whether annual safety reports should be subject independent audit and scrutiny prior to submission. *Reference Section 5.3.5 of the report.*

13. The role of the regulator in assessing financial capacity and public liability insurance needs review and a process for determining appropriate cover should be developed. The regulator should be required to ensure all foreseeable safety risks have been identified and evaluated and provided to an insurance assessor. Furthermore, the terms and conditions of actual insurance provided should be checked to ensure they are commensurate with actual risk exposure and that there are no exceptions or exclusions that potentially create lack of appropriate cover. *Reference Section 5.3.6 of the report.*

14. The Act should be modified to reflect the importance and criticality of safety interfaces and interface coordination plans should be mandated. *Reference Section 5.3.7 of the report.*

15. There should be a review of the accreditation fee process which should consider:
 - The management of frivolous inquiries;
 - The inconsistent application of the billable hour threshold;
 - Fees for variances and modifications;
 - Annual end-of-year adjustments and refunds; and
 - The capacity of heritage railways to pay fees, including the associated commencement threshold and incremental steps. *Reference Section 5.3.9 of the report.*

16. There is a need to provide non government owned railways with the same legislative powers as government owned railways to deal with issues such as trespass. In developing those additional powers reference can be drawn from the general rail safety legislation of Queensland and NSW. *Reference Section 5.3.10 of the report.*

17. The DPI should consider introducing a clause in the Act to give effect to obligations of rail safety workers, e.g. to present themselves for work in a safe and fit state. *Reference Section 5.3.12 of the report.*

18. The Act should require a rail safety report be produced and, in the interests of community assurance, should be publicly available. Any report should be developed with stakeholders to ensure it is sufficiently detailed to be meaningful and produced in a way that ensures reasonable anonymity exists. *Reference Section 5.3.13 of the report.*

19. Opportunity should be taken to reword those parts of the Act identified by stakeholders as being ambiguous or confusing. *Reference Section 5.3.14 of the report.*
20. There is a need to resolve the conflict between the tendering requirements of the state purchasing policy and the need to procure investigatory resources in an expedient manner. *Reference Section 5.3.15 of the report.*
21. The DPI should consider whether disputes between railway owners and operators on safety matters is a potential issue in WA and, if it is, whether the Queensland model of allowing the rail safety regulator to arbitrate is a best practice solution that needs to be legislated for. *Reference Section 5.4.2 of the report.*
22. The DPI should consider whether obligations contained in OSH legislation to involve employees and their representatives be adopted in the Rail Safety Act. *Reference Section 5.4.5 of the report.*
23. There should be a review of risk associated with heritage type railways to determine whether the Act needs to include such operations. The review should consider the range of risk exposures created by the differing heritage operations and the actual cost and benefit associated with complying with the regulation from both a railway and regulatory perspective. In addition, and, if in the long-term, heritage railways continue to be covered by the Act, the definition of "accredited person" would need further amending to reflect the accountability of a managing committee rather than an individual as outlined in the Associations Incorporation Act. *Reference Section 5.4.9 of the report.*
24. Any proposed changes to the Rail Safety Act should be developed in conjunction with WorkSafe to ensure there is no unintended consequence on the application of the Occupational Safety and Health Act. *Reference Section 5.4.12 of the report*
25. There should be a review of accreditation process and expanded guidelines should be issued that clearly articulate the accreditation acceptance criteria. The review should also consider the competence and capability requirements both railways and regulator employees involved in the accreditation process. *Reference Section 5.5.1 of the report.*
26. The list of regulations that can be made in Schedule 1 of the Act should be deleted. In addition, Section 61 of the Act should be amended to a generic statement that permits regulations to be made for matters that reduce the risk of passenger, public or employee injuries or to improve the operational performance of a railway. *Reference Section 5.5.4 of the report.*

27. The railway owner should be required to produce an annual certificate which verifies the rail infrastructure has been assessed against the operational task and is maintained to industry standards.

Furthermore, the infrastructure condition should be monitored and reported to the regulator at least annually in overall terms along with the details of any infrastructure deemed to be substandard. If substandard infrastructure exists, details of the risk controls are to be provided for that substandard infrastructure. *Reference Section 5.6.1 of the report.*

28. The railway operator should be required to produce an annual certificate which verifies the rollingstock is commensurate for the operational task and is maintained to industry standards. *Reference Section 5.6.2 of the report.*

29. The railway owner should be required to produce an annual certificate which verifies the safeworking system has been assessed against the operational task and complies with industry standards. *Reference Section 5.6.3 of the report.*

30. There should be a review of accreditation acceptance process to ensure submitted safety management plans are of a contemporary level and reflect best practice. *Reference Section 5.6.6 of the report.*

31. An additional clause should be provided in the Act stating the Director General has no liability for accrediting or maintaining the accreditation of any person nor does accreditation guarantee safety or diminish duty or transfer duty from the accredited person to the Director General. *Reference Section 5.6.8 of the report.*

32. The WA government should review whether the position of regulator within the current government structure restricts ability to perform independently. The review should consider the approach taken in NSW. *Reference Section 5.6.9 of the report.*

End