

RAIL SAFETY LEGISLATION IN NEW ZEALAND

IMPACT ON VOLUNTEER HERITAGE RAIL OPERATORS

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At the 1990 Conference in Wellington, N.Z., Roger Toleman of the Ministry of Transport outlined the proposals for the overhaul of the tramway and railway safety regime in New Zealand. This covered the:

- the need for licensing
- Safety Audit Model
- Steam Boilers and Overhead Electricity Supply
- Transitional Arrangements
- Accident Investigation
- Transport Corridor Management

A further two years elapsed before legislation was passed and on 1st April 1993 the following acts came into force:

- Transport Services Licensing Amendment Act (No. 3) 1992
- Transport Accident Investigation Commission Amendment Act 1992
- Railway Safety and Corridor Management Act 1992

Overview

- * **Legal Framework**
 - Licensing
 - Safety Plans
 - Accident & Incident Reporting & Investigation
- * **Content of Safety Plans**
 - Quality Systems
- * **Issues for Volunteer Groups**
 - Paperwork
 - Auditors Vs. Inspectors
 - Organisation Structure
 - Potential Cost
- * **Summary**

We are now 20 months into the new environment. While existing operators have had to comply with licensing requirements and accident and incident reporting from the beginning, a period of three years has been allowed for the development and approval of the most significant element of the legislation - safety plans.

Today I intend to provide a brief overview of the legislation, look at what is involved with safety plans and safety audits and review the impact of this on volunteer groups such as yourselves.

Licensing Requirements

- * Transport Services Licensing Act requires all operators to be licensed.
- * Neither a revenues earning ploy nor a means to limit the number of operators.
- * Identifies all operators to be covered under the Safety Audit regime.
- * Licence issued only when the operators safety plan is approved.
- * All operators as at 1st April 1993 have three years to have their safety plan approved.

All rail operators are required to have a rail service licence. Rail Service Licences are neither a revenue earning exercise nor a means to control the number of operators. They cost nothing and provided the management is of good character and you have an approved safety plan anyone can get a licence.

The Rail Service Licence is a registration mechanism by which the Land Transport Safety Authority can identify who is covered by the legislation. The LTSA administers the legislation within which the safety systems are established and have a responsibility to ensure all operators have a safety plan which is regularly audited.

Any rail service operating at the time the legislation came in force has until 31 March 1996 to develop and gain approval to a safety plan.

Safety Plans And Audits

- * Transport Services Licensing Act requires all operators to have an approved safety plan.
- * No safety plan - no licence.
- * Safety plan defines how the operator plans to build, maintain and operate their tramway or railway in a safe manner.
- * Once approved, the operator's compliance with the safety plan is audited by an independent safety auditor.
- * Land Transport Safety Authority may request supplementary and special safety audits.

As defined in the Transport Services Licensing Amendment (No 3) Act, a safety system sets out the "... standards, practices, and procedures" the operator proposes to follow in order to ensure the safety of persons

likely to be significantly at risk of death or serious injury through the operation of a rail service vehicle. We will look at the content of a safety system in more detail later.

Once approved, as a condition of being granted a Rail Services Licence, the operator must operate their railway or tramway in accordance with the system. Compliance with the system is audited annually by an independent auditor approved by the LTSA.

The LTSA also has the authority to order supplementary audits if it has reason to doubt the safety management of a particular operator.

Accident And Incident Reporting And Investigation

- * Hierarchy of accident and incident reporting.
- * Operators maintain an incident log:
 - audited by Safety Auditor.
 - Reviewed by LTSA staff.
- * Notification to LTSA:
 - accidents immediately by phone.
 - incidents by fax as soon as practicable.
- * Transport Accident Investigation Commission (TAIC):
 - investigates all accidents involving death.
 - other accidents and incidents as it deems necessary.

Railways and Tramways are historically very safe compared with other forms of transport. However, for every death or serious injury there are numerous minor injuries and for every minor injury there are many incidents which could have resulted in injury.

To enable adverse trends to be identified a system of accident and incident reporting has been established. For this purpose the following definitions are used:-

- Accident is an occurrence associated with the operation of a rail service vehicle and results in death or serious injury to a person.
- "Incident" is any occurrence, other than an accident, associated with the operation of a rail service vehicle that places or could have placed a person at significant risk of death or serious injury.

Accidents must be reported to the LTSA and the Transport Accident Investigation Commission by phone within two hours and followed by a written report on or before the next working day. Incidents have to be reported by fax on or before the next working day.

TAIC investigate all accidents identifying the cause(s) and recommending any changes required to the safety system of the operator. Often recommendation will be made to all operators in the interest of preventing of another accident.

Quality Systems Underpin Safety Systems

Land Transport Safety Authority

- Plan: Establish legal framework within which rail operators manage the safety of their systems.
- Do: Provide guidance and support in the implementation of the legal framework. Approve safety plans.
- Check: Monitor accident and incident reporting for adverse trends and review audit reports of rail operators.
- Act: Take action to remedy adverse trends and poor audits, eg. seek changes in safety plans, initiate special audits, withdraw licences.

Rail Operator

- Plan: Develop safety plan to meet operator's strategic objectives working within the legal framework.
- Do: Operate the tramway or railway in accordance with the approved safety plan.
- Check: Monitor operations in accordance with the approved safety eg. exception reporting, management reports, internal audits and inspections.
- Act: Take action to remedy faults eg. train staff, adjust maintenance schedules, amend safety plan.

Having looked at the three components of the safety legislation - licensing, safety systems and accident and incident reporting, we will now have a more detailed look at safety systems. It is the safety system that has the greatest impact on volunteer groups.

The basic philosophy underlying the safety system regime has its origins in quality management systems. The responsibilities of two of the three parties, the LTSA and the operator can be illustrated using the Plan, Do, Check, Act (PDCA) Cycle.

The operator who creates the risk takes responsibility for managing that risk, while the LTSA, on the other hand, is responsible for legal framework and ensuring that it is effective i.e. New Zealand has safe railways and tramways.

The other party involved in a safety system regime and mentioned but not specifically covered here is the auditor. The auditor is required to judge whether there is a sound and appropriate safety system in place for the nature of the operation, and to monitor the standards within that system.

Contents Of Safety Plans

- * Organisational Objectives.
- * Administration Details.
- * Standards proposed for each aspect of operation eg. track, rolling stock, training etc.
- * Procedures for ensuring compliance with each standard.
- * Reporting systems for accidents and incidents.
- * Management structure responsible for safety, including job descriptions.
- * Standards of training and experience required by drivers.
- * Scope of each regular audit.
- * Name and qualifications of auditor.
- * Other matters as may be prescribed.

Each tramway or railway is different in terms of scale, reason for existence, nature of equipment, customers etc. Safety plans must recognise these differences and be adapted to suit the need of the operator. For this reason a safety plan begins with the objectives and the key background details of the organisation - location, ownership, length of track etc.

The main body of the plan details the who, what, how and when of safety management on the tramway or railway. The focus is on:-

- management structure including job descriptions (who and when).
- standards and procedures (what and how).

The final part of a safety plan details who the auditor(s) will be and their responsibilities. The auditor's role is to see that the safety system is structured and implemented in a way which ensures so far as is humanly possible, the operation of a safe tramway or railway.

Issues For Volunteer Operators

- * Four areas are of particular relevance:
 - Paperwork.
 - Understanding the difference between Auditors and Inspectors.
 - Organisation structure.
 - Potential costs.

So just what are the implications of a safety system for a volunteer based rail operator?
Our experience to date indicated four areas of particular relevance:

- paperwork
- understanding the difference between auditors and inspectors
- organisation structure
- potential costs.

Paperwork

- * Safety plans have the potential to bring out the bureaucrats in all of us.
- * The need to maintain proper records has the potential to turn volunteers away.
- * Groups therefore need to apply three basic principles:-
 - Adopt the Pareto Principle
 - >>the 80/20 Rule.
 - Use the "KISS" Principle
 - >>"Keep It Simple Stupid".
 - Remember the customers
 - >>they pay the bills!

The big risk with safety plans is that the need to maintain adequate records of safety related activities will bring out the bureaucratic instincts in us all and drive members away.

Volunteers and paperwork do not mix well together. Volunteers come along to restore trams and trains, lay track, drive trams and locomotives, not to fill out bits of paper. Paperwork is left back at the office.

To combat this the Federation is emphasising three basic principles:

Adopt the Pareto Rule (also known as the 80/20 rule)

In respect to a safety plan this means that an 80% safe railway or tramway can be achieved by concentrating on the top 20% of the risk factors. This is not to say that the aim is not for 100% safety but to emphasise the need to be pragmatic - trying to cover the hundreds, if not thousands, of risk factors will create a monster that will eventually put the group out of business.

Use the KISS Principle - "Keep It Simple Stupid"

The processes outlined in safety plans have to be implemented by members. It is good management to ensure that the skills and efforts of the members are focused on restoring, maintaining and operating trams, locomotives, rolling stock etc. and not spending hours each day doing the paperwork.

Remember the Customer - they pay the bills

Safety procedures must be customer friendly. Just as a railway or tramway with a poor safety record will not attract customers, tramways and railways that are operated in such a way that customers are inconvenienced, even in the guise of safety, will also have poor patronage.

Inspectors Vs Auditors

- * Inspectors check that the physical items comply with appropriate standards.
- * Audits cover more than the physical items
 - quality of management
 - staff training.
- * Auditors check the records to ensure the operator
 - carried out agreed actions
 - according to the timetables
 - to the defined standards
 - by the appropriate people.
- * Auditors will also
 - kick the 'ballast'
 - interview key management.

One of the most difficult concepts that rail groups in New Zealand have had to come to grips with is that of auditing and understanding the difference from inspecting.

Until now we have all been used to an inspectorial regime whereby various inspectors from Government Agencies would visit the site and inspect track, vehicles, boilers, etc. to ensure they complied with the relevant statute. This would ensure that things were safe for at least one day of the year.

While the operator has always been legally responsible for complying with appropriate standards, a safety audit regime forces the operator to be more proactive in safety management. In practice, the operator will undertake

their own inspections according to a timetable agreed in the safety plan. An auditor, who is independent, is required to audit a compliance with the safety plan once a year.

The audit will primarily consist of checking the records to ensure the actions detailed in the safety plan were carried out according to the timetable by the required people and in accordance with the standards set out. This is not to say that auditors will totally ignore the physical condition of the tramway or railway, they will want to "get out and kick the ballast" to satisfy themselves that the paperwork matches with reality. In addition key management will be involved with interviews and discussions.

Organisation Structures

- * Volunteer groups are traditionally managed by committees.
- * Committees are seen to be democratic - everyone can be involved in the decision making.
- * Safety plans require a clear definition of management responsibility in respect to safety.
- * Office bearers must:
 - be accountable
 - have clear levels of decision making authority
 - have requisite skills and experience.
- * Preference for appointments rather than elections.

The changes necessary to an organisation's management structure to ensure there is a clear line of accountability for safety is likely to have the greatest impact on volunteer groups. However, this impact is not on how the group runs its tramway or railway but on the underlying culture of the organisation.

Traditionally, volunteer groups are managed by committees and elected office bearers. The very democratic nature of these organisation gives members the feeling of being in control of their organisation.. Decisions are usually made by committees or at the very least by consensus.

In order to achieve a clear line of accountability for safety there must be a well defined management structure with clear accountabilities and appropriate delegated authorities. The committee is still important but its decisions will be limited to ones of strategy and policy and it needs to stay away from operational matters.

The skills and experience of members holding management positions also become important in a structure accountable for safety. Elections cannot guarantee that office bearers will have the necessary skills or experience nor can they guarantee stability in the management structure from year to year. Accordingly, the trend will be towards a structure based on an elected committee which appoints all office bearers who have responsibility for safety for fixed terms.

The management structures of our volunteer tramway and railway groups will thus change to resemble those of a small company. This will challenge the leadership of these groups to ensure that members always feel they have a say in the running of their organisation.

Potential Cost

- * Until now honorary inspectors have been used.
- * Auditors could potentially cost money.
- * Remuneration is an issue between the operator and the auditor.
- * Operator needs to find an auditor, acceptable to the LTSA, who will act in the honorary capacity.
- * The financial implications place an incentive on the operator to have and maintain a good safety system.

Under the inspectorial regime, most volunteer operators had honorary inspectors - often retired railway or tramway staff who agreed to be an inspector as their contribution to the preservation effort. Under the new regime a number of groups fear that auditors will end up costing a fortune.

However, the LTSA is only concerned with the suitability of the auditor not the financial arrangements between the operator and the auditor. So if the operator can arrange for an auditor to act on an honorary basis there will be no additional costs over the existing system.

Even if the operator has to pay for an auditor, the legislation has been designed to bring a discipline to operating a railway or tramway which means that the tramway or railway management will continually look at

the safety issues. A clear and well set out safety system, with clear evidence that standards are being met means that the audit should be over quickly at low cost.

What Does It Mean In Practice

- * Volunteer rail operators in NZ have a very good safety record.
- * So what is wrong with current practices.
- * Safety plans will formalise existing practices.
- * Opportunity will be taken to improve practices
 - record keeping
 - management.
- * Will become more business like.
- * Represents a significant cultural change for many groups.
- * Challenge is to ensure members understand and accept the changes that are inevitable.

So what will all this mean in practice?

We have had a very good safety record over the years so why change?

In reality the new legislation will probably mean little change to daily operating procedures and workshop practices. The safety plans will largely formalise existing practices. However, many groups have already found the process a useful opportunity to review their practices to ensure they meet the needs of their current operations. So there will also be some improvements.

These improvements will mainly be in the areas of:-

- record keeping
- management structures and practices.

The changes required in these areas that will mean a significant cultural change for a number of groups. The challenge for all groups is to ensure that their members understand and accept the changes that are inevitable.

Overall the new regime will result in groups taking a more business like approach to their operations - which can only be good for them and the industry.

Discussion

John Radcliffe referred to the International Standard of Quality Management - ISO 9000 guide aimed at all business and Craig Tooke to AS 3902.

Les Stewart emphasised that management groups within the museums must talk to all levels within the workforce.

Dave Hinman and Les Stewart discussed the problems for Auditors who need to be covered for liability and who are auditors - not inspectors. The NFRS is trying to establish a list of volunteer auditors.