Ministerial Inquiry into Tranz Rail Occupational Safety & Health

Report

August 2000

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into Tranz Rail
Occupational Safety and Health

Report to the Ministers of Labour and Transport

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PART 1

INTRODUCTION

On 26 June this year, Cabinet approved the Terms of Reference for an Inquiry into whether any systemic factors had contributed to a series of fatal accidents to employees of Tranz Rail Limited or its subsidiaries ("Tranz Rail"). The Terms of Reference, a copy of which is attached as the First Schedule to this report, can be summarised as providing for inquiry into whether any such factors arise out of the safety regulatory regime governing Tranz Rail's activities, out of the systems in place under the regime, or out of a failure to implement effectively the required systems.

I was appointed to chair the Inquiry and was required to report to you in writing by 31 August.

At the outset, it needs to be made clear that there is a problem at Tranz Rail.

On 10 May 2000 a Tranz Rail employee was killed in a shunting accident in Christchurch. This accident brought to five the number of Tranz Rail employees fatally injured over the past 12 months. These accidents were:

- a crew member of the *Arahura* was killed during an accident boat drill;
- a locomotive driver was killed in a head on train crash at Waipahi in Southland; a second driver was seriously injured;
- a shunter was killed in the Wellington railway yards;
- a shunter was killed in the Woolston railway yards in Christchurch; and
- a shunter was killed in the Middleton railway yards in Christchurch.

In evidence to the Inquiry, the Department of Labour estimated that the rate of fatal accidents among Tranz Rail staff is equivalent to 39.3 deaths per 100,000 employees. The New Zealand average rate of fatalities is estimated by the Department at 4.9 per 100,000 employees. Accordingly, the workplace fatality record at Tranz Rail is about eight times the national average.

Most fatal and serious accidents involving Tranz Rail staff have occurred in the rail operating environment, the majority in shunting. Since 1993 Tranz Rail has recorded 22 rail accidents resulting in fatal or serious injuries to staff and investigated by OSH. Shunters were involved

in 15 (68%) of those accidents. The RMTU believes that, because not all serious accidents are investigated by OSH, there are many more serious accidents than suggested by these figures.

The procedure followed

By public notice published throughout the country on 1 July, submissions to the Inquiry were invited by 19 July. The submissions received were made available to the principal parties, who were permitted to make submissions in response by 28 July.

The Inquiry then held public hearings in Wellington on 31 July, 1 August and 2 August, in Christchurch on 3 August and in Auckland on 4 August. A number of new matters were raised by employees of Tranz Rail in Christchurch and Auckland; a further public hearing was therefore held in Christchurch on 14 August to enable Tranz Rail to respond to those matters.

Apart from providing an opportunity for the Inquiry to question the principal parties in public about their submissions, the public hearings also enabled the immediate families of a number of those who had suffered fatal accidents while working for Tranz Rail to present thoughtful and moving submissions that emphasized the tragic consequences of fatal accidents.

Attached as the Second Schedule to this report is a list of all those who made written and/or oral submissions. Their submissions, written or oral, were without exception well-prepared and presented. As appears from the Schedule, among those who appeared were:

- the Rail and Maritime Transport Union ("the RMTU"), which represents some 80% of the employees of Tranz Rail;
- Tranz Rail itself;
- the Occupational Safety and Health division of the Department of Labour ("OSH"), which administers the Health and Safety in Employment Act 1992;
- the Land Transport Safety Authority ("the LTSA"), which administers the land transport provisions of the Transport Services Licensing Act 1989;
- the Ministry of Transport ("the MOT");
- the Testing Laboratory Registration Council Ltd ("Telarc"), Tranz Rail's auditor;

- the National Federation of Rail Societies, which represents the 45 rail operators other than Tranz Rail;
- Ross Wilson, President of the Council of Trade Unions, who gave the Inquiry the benefit of his long experience in the areas of both rail safety and accident prevention generally;
- Dave Morgan, President of the Seafarers Union, and members of that Union, who provided a maritime perspective on the approach of Tranz Rail to occupational safety and the division of responsibility between OSH and the Maritime Safety Authority; and
- Euan McQueen, formerly a senior executive in the Railways Department and the Railways Corporation, who discussed changes of culture that have accompanied the corporatisation and then privatisation of rail.

Assistance from consultants

As permitted by the Terms of Reference, Graham Guilford, an expert in rail operations from Melbourne, and Tom Reeves, an expert in occupational health and safety from Auckland, were engaged to assist me. Pat Hoy, a very experienced auditor, was seconded from the Audit Office to the Inquiry. Following the public hearings, I consulted Felicity Lamm of Auckland University, who has studied and written extensively on occupational safety and health issues. I gratefully acknowledge the willingness of Mr Guilford, Mr Hoy, Ms Lamm and Mr Reeves to do all I asked of them, often within what were very tight deadlines.

John Gilbert was appointed as Manager of the Inquiry and Kate Mitchell as its Secretary. Mr Gilbert and Ms Mitchell performed their duties with exemplary courtesy and efficiency and were instrumental in enabling this report to be completed within the allocated time. As the Inquiry progressed, it became apparent that the previous experience of Mr Gilbert as a senior Government official would be of considerable assistance in my consideration of the regulatory issues that arise. I therefore invited him to assist in this area of the Inquiry and his assistance proved to be of great value.

Although I personally take full responsibility for the contents of this report, Mr Gilbert, Mr Guilford, Mr Hoy, Ms Lamm and Mr Reeves have all authorised me to state on their behalf their willingness to be seen as parties to the report. It is for this reason that the balance of the report uses the words *we* and *us*, rather than *I* and *me*.

The structure of the report

The following parts of the report address in turn the first five Terms of Reference, for convenience combining the discussion of Terms 2(a) and 3 in Part 4. We have sought to minimise as far as possible over-lapping between Parts, but some was unavoidable.

The report then concludes with a final Part in which we address Terms of Reference 6, 7 and 8, seek to draw together the themes of the report and set out our recommendations before making some concluding observations.

For convenience, we use the phrase *occupational safety* as encompassing, unless the context indicates otherwise, both occupational health and occupational safety.

The approach of the RMTU and employee witnesses

The RMTU presented a comprehensive and very helpful submission, and a number of its members appeared personally and gave evidence of their experience. It is apparent that there is a widespread and sincerely held desire among Tranz Rail employees to improve their workplace standards of health and safety. That concern, and the long and proud tradition of the RMTU and its predecessors in protecting the safety of their members, provides a sound basis for a participatory approach, with Tranz Rail management, to the improvement of health and safety standards within the company.

The approach of Tranz Rail

While Tranz Rail was able to answer comprehensively and convincingly many of the specific allegations raised by the RMTU, the overall approach of Tranz Rail was constructive and forward-looking, to its great credit. This was illustrated by its actions in commissioning and producing to the Inquiry a report by David Rayner, a retired Director of Safety and Standards and member of the Board of Railtrack Plc in the United Kingdom, and a highly-regarded rail safety expert. Mr Rayner was supportive of much of the work of Tranz Rail in occupational and public safety, but was also critical in a number of respects and made a number of recommendations for change. Tranz Rail produced to the Inquiry a paper setting out its intended action on Mr Rayner's recommendations.

At the conclusion of the public hearings, Murray King, the Executive Manager Corporate Services of Tranz Rail, made the following comments:

> *I think this Inquiry has been a learning experience for Tranz Rail and I suggest for all parties. It has covered a very significant range of material from what the law actually means through to the need to be more strategic on safety, to pay more attention to underlying factors causing accidents and right through to the procedures which should be followed for the bereaved and injured … Both the RMTU and Tranz Rail, I think, need to do some work on a number of fronts. There is clearly a need for more in-depth consultation on particular issues. We need to work together on better family contact, and I think more fundamentally we need to work together to change the culture of safety that has been laid out before us.*

We endorse unreservedly these comments of Dr King, which we think also encapsulate the approach of the RMTU. In the past, the RMTU and Tranz Rail have, we suspect, tended at times to talk past rather than to each other, in part due to the understandable wish of the RMTU to link safety and industrial issues and the equally understandable wish of Tranz Rail to divorce them. We express the hope that the Inquiry will be something of a turning point, and that in future both the RMTU and Tranz Rail will at all times recognise that occupational safety is best promoted by their working together closely and constructively.

The acknowledgement by Tranz Rail of the need for change has three significant consequences for this report. First, it makes it neither necessary nor desirable to focus on the detail of what has happened in the past in order to determine whether the company does have a problem with occupational safety. Second, the report can be much more constructive in its tone and forward-looking in its emphasis than it would otherwise be. Third, the report can be much shorter.

PART 2

THE LEGISLATIVE BACKGROUND : TERM OF REFERENCE 1 (a)

This Term of Reference requires the Inquiry to consider the nature, scope and content of the legislative regime governing occupational safety and health issues for relevant Tranz Rail employees and contractors.

In terms of occupational safety and health, the principal statutes are:

- the Transport Services Licensing Act 1989 ("the TSL Act") and amendments, particularly the Transport Services Amendment Act 1992;
- the Health and Safety in Employment Act 1992 ("the HSE Act") and amendments; and
- the Transport Accident Investigation Commission Act 1990 ("the TAIC Act") and amendments.

Transport Services Licensing Act

The TSL Act endeavours to ensure the safe operation of a rail system through the licensing of operators. A rail service cannot be operated without a licence, and a licence cannot be obtained without an *Approved Safety System*. The existence of a safety system is central to the application for a licence to operate a rail system.

Section 6B of the TSL Act requires that the proposed safety system must describe the system of standards, practices and procedures that 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.

Application for a rail service licence must be made to the LTSA and must describe the proposed safety system. In considering the proposed safety system, the LTSA is required, under section 6 of the TSL Act, to take into account a number of factors including:

- the nature of the proposed rail service operation;
- the extent to which the safety system is attainable at reasonable cost; and
- the relationship between the proposed safety system and comparable safety systems applicable to competing modes of transport.

The LTSA must be satisfied that:

- the safety system will reasonably protect persons likely to be significantly at risk of death or serious injury through the operation of a rail service vehicle;
- the operator is capable of establishing and maintaining the safety system; and
- the system will provide a programme of training and supervision that will ensure that all persons for whom the operator is responsible are capable of carrying out their responsibilities within the safety system.

Once approval is given to the rail service operation, regular audits are conducted to ensure that the rail service is being operated in accordance with the *Approved Safety System*. The audit reports are sent to the LTSA, who must notify the rail service operator that:

- the system is being complied with; or
- remedial action is required; or
- a variation to the system is required.

Only the LTSA can approve changes or variations to an *Approved Safety System*.

The LTSA publication *Rail Safety Licensing and Audit Guidelines* explains that:

> *If safety system variations are required, these should be drafted by the operator (preferably with auditor "sign-off") and sent to the LTSA for consideration as soon as possible. Each time the Rail Safety System is revised, the revised version with changes suitably identified is to be submitted to the LTSA for approval.*

In terms of occupation safety and health issues, a key provision is section 6H of the TSL Act, which reads as follows:

> *If a rail service operator or any other person complies with the provisions of this Act or of the operator's approved safety system then, in respect of the matters governed by those provisions, such compliance shall be deemed to be compliance with the provisions of the Health and Safety in Employment Act 1992.*

This section means that where a rail operator has, in respect of a safety issue, complied with the *Approved Safety System*, the operator is deemed to have complied with the HSE Act. If there is no compliance, the deeming provision does not operate.

Section 6H applies only to those activities directly associated with the provision of a rail service. Thus it applies to locomotive engineers, passenger train personnel and shunters, when engaged in those roles. All other employees, such as those employed in workshops or depots, or as clerical staff, are for all purposes covered by the HSE Act unless they are engaged in activities associated with the operation of a rail service vehicle, when they are subject to section 6H of the TSL Act.

The TSL Act and the HSE Act differ significantly in their formulation of the test for the standard of safety required. Section 6C(1)(b) of the TSL Act refers to *the safety system attainable, consistent with the nature of the service, at a reasonable cost,* while under section 6 of the HSE Act the employer is required to take *all practicable steps to ensure the safety of employees while at work.* The *reasonable cost* principle is not without controversy. It has been argued for example that placing the emphasis on *reasonable cost* places safety in conflict with commercial considerations.[1]

Health and Safety in Employment Act

The HSE Act places the primary responsibility on employers to provide a safe and healthy work environment. Employers must take all practicable steps to ensure the safety of employees while at work. In addition to this general duty, there is a hierarchy of measures to be taken in relation to hazards at work. This involves identification of hazards followed by their elimination, isolation or minimisation. Employers also have a duty to take all practicable steps to ensure that no action or inaction of an employee at work harms any other person. Those in control of places of work must take all practicable steps to ensure that no harm comes to contractors, subcontractors or their employees. Employees must take all practicable steps to ensure their own safety and to ensure that no harm is caused to anyone else as a result of their actions or inactions.

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[1] Professor Ian Glendon discusses this issue in *Safety in the Railway Industry* (1998). See also Andrew Evans, Professor of Transport Safety, University College and Imperial College, London (1999) *Fatal Train Accidents on Britain's Mainline Railways* in *Journal of The Royal Statistical Society Series A: Statistics in Society*.

As with the TSL Act, the enforcement approach under the HSE Act is co-regulatory (although some would argue that it is self-regulatory). As already noted[2], the Act dictates that the employer must take *all practicable steps to ensure the safety of employees while at work.* If an accident occurs, there is a *prima facie* case against the employer for a breach of duty of care. Unlike previous health and safety legislation, the inspectorate no longer has to demonstrate that a regulation has been violated. Rather, the employer is required to show that steps were taken, as far as reasonably practicable, to ensure that work processes and the workplace were safe. There is a duty on employers to self-regulate their workplace health and safety by identifying problems specific to the worksite and devising appropriate solutions. This does not mean that occupational safety and health is the exclusive prerogative of management.

Co-regulation under the HSE Act is largely dependent on the notion of voluntary compliance by the employer. This is particularly so when complying with codes of practice. Studies both in New Zealand and overseas have shown that voluntary compliance by employers is low[3]. Therefore, the inspectorate requires greater vigilance when monitoring high-risk industries, such as rail.

Transport Accident Investigation Commission Act

The TAIC Act establishes the Transport Accident Investigation Commission ("the TAIC"). The TAIC investigates rail accidents or incidents to determine circumstances and causes with a view to avoidance of similar occurrences in the future. An incident is defined in section 2 of the TSL Act as *any occurrence, other than an accident, that is associated with the operation of a rail service vehicle, being an occurrence that placed or could have placed a person at significant risk of death or serious injury.* (We do not know why this definition is more restrictive than the corresponding definitions of aviation and marine incidents in the Civil Aviation Act 1990 and the Maritime Transport Act 1994 respectively which define an incident as an occurrence that *affects or could affect the safety of operation*).

Section 39A of the TSL Act requires a rail operator to notify the LTSA of accidents or incidents. Section 39C then requires the LTSA to advise the TAIC of accidents and of incidents that the LTSA considers should be investigated by the TAIC.

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[2] *page 8.*

[3] *See Bohle and Quinlan* (2000).

Section 4 of the TAIC Act emphasizes the need to identify the cause of the accident or incident rather than to ascribe blame. The results of the TAIC's investigations are published. Between 1993 and 1999, the TAIC investigated 108 accidents or incidents occurring across the rail industry.

PART 3

RELEVANT AGENCIES : TERM OF REFERENCE 1 (b)

This Term of Reference requires the Inquiry to identify any factors affecting the ability of relevant agencies effectively and consistently to facilitate and enforce an appropriate level of occupational safety and health.

Conflicting evidence was presented to the Inquiry on whether or not there are factors affecting the ability of agencies to enforce an appropriate level of occupational safety and health at Tranz Rail. The evidence suggested there are three main issues:

- the effects of section 6H of the TSL Act;
- the effects of the *safety at reasonable cost* provision in the TSL Act; and
- recommendations made by the TAIC.

The effects of section 6H of the TSL Act

This provision has been interpreted so as to apply to those activities directly associated with the operation of a rail service vehicle, with the consequence that Tranz Rail is in that respect not fully subject to the provisions of the HSE Act.

The RMTU has been raising its concerns about the TSL Act for several years. On 12 August 1997 it presented a paper to the then Minister of Labour expressing its concern about the *inadequate job which the LTSA has done in discharging (or failing to discharge) its statutory functions.* In particular, the RMTU expressed concern about the potential effect of section 6H in exempting Tranz Rail from the HSE Act (in respect of rail accidents). The RMTU argued that Tranz Rail should be subject to the HSE Act, in respect of all its operations, for the following reasons:

- Tranz Rail was no longer a Government agency and should not have a privileged position;
- the test of safety at a reasonable cost is a lower one than all practicable steps;
- railway workers should be entitled to the same level of statutory protection as other workers;
- section 6H left rail employees liable while the employer was given immunity;
- the Labour Department (OSH) has specialists in occupational safety and health;

- the LTSA had not effectively monitored or enforced the legislation and did not appear to have ready access to the *Approved Safety System;* and
- the number of fatal accidents had increased dramatically over the previous two years.

The RMTU has continued its public advocacy on the issue up to and at this Inquiry.

OSH itself, in its submission to the Inquiry, raised concerns about the operation of section 6H.

The position appears to be as follows. In the case of Tranz Rail, the LTSA approved the safety system in 1995. At that time, when commenting to the Secretary for Labour on issues as to the scope of the safety system, OSH stated that it would be important that:

> *A clear understanding be agreed between Tranz Rail and OSH as to the actual safety matters covered by the safety system. This is important so that no confusion will arise when accepting or challenging compliance with a safety system as being compliance with the Health and Safety in Employment Act 1992. This matter has been raised with Tranz Rail who agree. The issues to be established include a clear understanding that the safety system does not cover rail maintenance workshops, offices and work carried on about or near rail tracks, bridges, or work carried on about or on rail vehicles for maintenance, loading and unloading, or safety of other rail buildings and platforms. The safety system will cover matters such as the safety of rail tracks, bridges, signals and the integrity of the signals system, the safe movement of all rail vehicles on rail tracks, the safe design of and the standards used, construction and maintenance of all rail vehicles, tracks, signals and bridges etc. The medical fitness of rail drivers, the training and competencies of rail employees. Accident and incident reporting in relation to rail vehicles.*

OSH then commented, however, in its submission to the Inquiry, that:

> *The actual scope of Tranz Rail's approved safety system, in terms of section 6B of the TSL Act and the definitions in that Act, appears to be somewhat wider than that understood by OSH in 1995. The wide scope of "approved system" means that some rail operations which were governed by OSH prior to the HSE Act may now be covered by the approved safety system regime, contrary to OSH's original understanding.*

OSH has prosecuted Tranz Rail on a number of occasions for alleged breaches of the HSE Act. The OSH submission to the Inquiry summarizes its current understanding of the legal position as follows:

> *As a result of the High Court decision Tranz Rail v Department of Labour, it is clear that OSH [has] jurisdiction to investigate Tranz Rail's work practices in respect of its operation of a rail service but not beyond the point where section 6H of the TSL Act applies. In Tranz Rail Limited v Department of Labour, Justice Ellis said: "It will be noted that that once a railway service operator has an approved safety system, enforcement is still through the Health and Safety in Employment Act 1992, albeit with such protection as 6H affords."*(4)

The OSH submission explained that:

> *What this means is that OSH has jurisdiction to enforce the HSE Act in respect of Tranz Rail's work practices in three scenarios. Either:*
>
> - *Tranz Rail has not complied with its approved safety system (in which case it cannot be deemed to be in compliance with the HSE Act); or*
> - *Tranz Rail's approved safety system does not contain any provision which governs the safety issue in question; or*
> - *the safety issue in question is unrelated to the operation of a rail service.*

Thus while it is not correct to allege, as did some submissions to the Inquiry, that for activities associated with the operation of rail service vehicles, prosecutions under the HSE Act cannot be brought against Tranz Rail, OSH believes there are significant difficulties in bringing a prosecution under the HSE Act.

This view is disputed by Tranz Rail, which argues that:

> *All of Tranz Rail's operations are covered by the HSE Act. The effect of section 6H is not to exclude the application of the HSE Act where an employee is associated with the operation of a rail service vehicle. Rather, section 6H provides a defence for a rail service operator against prosecution under the HSE Act if it can prove that the relevant operation was covered by its safety system and that it complied with its safety system.*

However, the MOT in its submission to the Inquiry commented that:

> *The effect of section 6H is that there is a higher test applicable for prosecutions under the HSE Act for rail than for other industries. As discussed earlier, to prove a workplace safety*

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(4) [1997] ERNZ 316

offence has been committed by a rail operator, the prosecution must prove that there was no approved safety system, or there was non-compliance with the approved safety system, as well as the usual ingredients for offences under the HSE Act.

Further, the MOT observed that these difficulties have *at times prevented OSH from bringing a prosecution against Tranz Rail in cases where employees or others have been killed or injured.*

In the quotation above from Tranz Rail, the point was made that section 6H provides a defence for a rail service operator against prosecution under the HSE Act if it can prove that the relevant operation was covered by its safety system and that it complied with its safety system. There is, however, a further difficulty for OSH, which it raised in its submission to the Inquiry:

The first difficulty is ascertaining whether or not Tranz Rail's safety system contains provisions which govern the safety issue in question. Tranz Rail's safety system is a massive document. It incorporates all documents, procedures and policies which impact upon the safety of rail operations. The system includes any local safety instructions and also any interim safety instructions. As an example it includes any speed restrictions or instructions given in relation to any area of track at a given time. As such the complete safety system does not exist in a format that would allow it to be reviewed in its entirety at any given place at any given time.

The RMTU has also had difficulties in obtaining access to the *Approved Safety System;* indeed it could not do so until after the Inquiry had commenced. It has therefore always had an incomplete understanding of the scope of the *Approved Safety System.*

OSH raised another important point about the *Approved Safety System;*

It has been OSH's experience that, at times, Tranz Rail has procrastinated in making available to OSH a copy of the relevant provision in the safety system. Indeed, Tranz Rail has refused to provide OSH with a copy of some of the provisions in the safety system because they are claimed to be commercially sensitive. The bottom line is that if one asks to view the "Approved Safety System" Tranz Rail is unable to make it available.

Tranz Rail explained that it is not aware of a lack of cooperation over OSH access to the *Approved Safety System,* and made the point that OSH has ample powers to access the necessary documents if it wishes to.

In summary, we believe that the HSE Act is intended to enhance workplace safety and health. OSH has difficulties in determining the scope of the Tranz Rail *Approved Safety System* and in bringing prosecutions under the HSE Act, and therefore there are difficulties in enforcing an appropriate level of workplace safety.

In our view, because the *Approved Safety System* is integral to the scheme of the TSL Act for protecting public safety, it should be a public document.

All practicable steps/reasonable cost

The TSL Act provides that safety is to be achieved at *reasonable cost.* The HSE Act requires *all practicable steps* must be taken to improve workplace safety. Conflicting evidence was presented to the Inquiry as to whether or not these different tests inhibited workplace safety at Tranz Rail.

Reasonable cost

In its publication *Rail Safety Licensing and Audit Guidelines* the LTSA explains the *safety at reasonable cost* principle as follows:

It should be noted that the Government promotes safety in transport at "reasonable cost". This recognises that absolute safety is impossible to attain because all risk is impossible to eliminate. At the margin, the cost of eliminating the last few risks will far outweigh the benefits to be gained. This means that the cost of a particular safety activity must be assessed as being less than the benefits to be gained from mitigating the recognised risk. Thus, where changes are made to operating practices, the financial benefits resulting from those changes must be significant and considerable in relation to the increased exposure to less safe operations.

All practicable steps

The HSE Act requires employers to take *all practicable steps* to ensure the safety of employees while at work. The definition in the legislation of *all practicable steps* is:

All practicable steps, in relation to achieving any result in any circumstances, means all steps to achieve the result that it is reasonably practicable to take in the circumstances, having regard to:

- *the nature and severity of the harm that may be suffered if the result is not achieved; and*

- *the current state of knowledge about the likelihood that harm of that nature and severity will be suffered if the result is not achieved; and*
- *the current state of knowledge about harm of that nature; and*
- *the current state of knowledge about the means available to achieve the result, and about the likely efficacy of each; and*
- *the availability and cost of each of those means.*

The MOT submitted that this definition *makes it clear that the test of whether or not all practicable steps have been taken involves undertaking a cost-benefit analysis.* The *reasonable cost* test also implies the need for cost-benefit studies when determining the need for new safety measures.

Therefore it might seem that there is no real difference between *reasonable cost* and *all practicable steps.* This is certainly the Tranz Rail position. It argued that the *all practicable steps* standard is synonymous with *safety at reasonable cost.* However, OSH contended that if the *all practicable steps* test was applied to the practice of shunting staff riding on wagons, improved safety outcomes would be achieved. OSH stated that:

> *Since riding on wagons exposes Tranz Rail's employees to very significant hazards that apparently cannot be eliminated, an all practicable steps model would require very robust measures to be put in place to minimise the risks. For example, radio communications equipment would be the best available with very certain communication procedures in place. The maintenance of track and yard infrastructure would be at the highest standard to minimise the hazards associated with poor track or underfoot conditions.*

In other words, OSH was suggesting that the *all practicable steps* test is a more stringent test than *reasonable cost* because the *all practicable steps* test requires an assessment that might reveal the further practicable steps that could be taken. In our view, such additional measures might not be identified through application of the *reasonable cost* test to specific safety measures. Our conclusion is that the provision in the TSL Act for *safety at reasonable cost* may impair agencies that have a responsibility for ensuring improved workplace safety.

Recommendations of the TAIC

As discussed earlier[5], the TAIC investigates accidents and incidents in all transport modes and between 1993 and 1999 investigated 108 rail occurrences across the industry and made numerous recommendations to improve rail safety. The RMTU, in its submission, suggested that the lack of a legislative requirement for TAIC recommendations to be implemented impaired the provision of an appropriate level of occupational health and safety. The MOT commented on the concern of the RMTU as follows:

> *The Ministry is working with the TAIC and the safety authorities to improve reporting of action taken on all TAIC recommendations to the safety authorities and the industry. But there is no proposal to change the system whereby each recommendation is considered on its merits. This is because TAIC recommendations are not qualified by the need to apply the reasonable cost test or the all practicable steps test mandated on safety agencies.*

The main objective of TAIC investigations, as set out in section 4 of the TAIC Act, is to determine the causes of the accident or incidents in order to avoid similar occurrences in the future, rather than to attribute blame. The TAIC does make recommendations and, as pointed out by the RMTU, there is no requirement for its recommendations to be observed.

The reports of the TAIC that we have read have uniformly been of the highest standard and their recommendations constructive and practical. We therefore believe that workplace safety would be enhanced if there were a requirement for recommendations made by the TAIC to be implemented unless they can be demonstrated by the operator concerned to be impracticable. The operator should first seek to satisfy the TAIC that a recommendation was not practicable, with recourse to the Minister of Transport to decide the point if agreement could not be reached.

Which agency should enforce health and safety?

One of the key issues raised in this Inquiry is the conflicting and duplicated roles of the government agencies. On one hand, supervision of the *Approved Safety System* of Tranz Rail rests with the LTSA and that system is linked to the HSE Act by section 6H of the TSL Act. On the other hand, all Tranz Rail employees are covered to at least some extent by the HSE Act

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[5] page 9.

which is enforced by OSH. However, both agencies do work together, in conjunction with the Police and Coroners, when a serious injury or fatality has occurred.

There are strong arguments that the LTSA should be responsible for both public and occupational safety at Tranz Rail together with Telarc, the auditor responsible for carrying out safety audits of Tranz Rail. However, the LTSA's primary statutory function is to issue licences and review the results of compliance audits, and therefore an enforcement role may be beyond the present resources and capabilities of many of its staff. The functions, approach and resources required to achieve and maintain a long-term compliance enforcement service are substantially different from those required for the services of licensing and auditing. Moreover, the enforcement role, in which a variety of enforcement strategies are applied by the field inspector, is in complete contrast to the role played by the licensing officer. It is clear, however, that the LTSA functions have increasingly expanded to include a substantial enforcement role, particularly regarding commercial road vehicles.

Unlike the LTSA, the primary function of OSH is to enforce occupational health and safety regulations, as well as to conduct audits. In addition, it should not be forgotten that the HSE Act is based on the United Kingdom *Robens* principle of *one Act administered by one authority*[6]. Confusion would be considerably lessened by reducing the number of government agencies involved in enforcing occupational health and safety regulations and investigating accidents.

The issue of whether the LTSA or OSH should be the regulator of rail occupational safety is thus a difficult one, further consideration of which we leave to the final part of this report.

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[6] Lord Robens *Report of the Committee on Safety and Health at Work* (1972).

PART 4
THE APPROVED SAFETY SYSTEM : TERMS OF REFERENCE 2 (a) AND 3.

Term of Reference 2 (a) asks the Inquiry to identify and consider the nature and scope, content and integrity of Tranz Rail's *Approved Safety System*. Term of Reference 3 concerns the manner and extent to which Tranz Rail has implemented the *Approved Safety System*. For convenience, we address both topics together.

Documented safety systems

As described in Part 2[7], rail operators must apply to the LTSA for approval of a safety system. The origins of *Approved Safety Systems* stem from overseas experience in the management of hazardous industries. The first application of *Approved Safety Systems* was in the management of industrial installations, such as chemical plants. This was followed by requirements for documented and approved safety systems in the offshore oil industry and later in the gas and railway industries. Underpinning approved safety systems is the concept that, if an organisation wishes to carry out a hazardous activity, it must make a case to the regulatory authority that it will do so safely. This requires identification of all the potential risks and how they will be managed. In essence, the regulated organisation writes its own specific rules governing the safety function and the regulator enforces compliance with these rules.

Overseas experience is that, while rail does have some high-technology systems such as signalling systems, the key to rail safety is not the control of complex technology, but ensuring uniformity and reliability in the widespread execution of largely routine tasks.

The Tranz Rail approved safety system

The LTSA approved the Tranz Rail Safety System in December 1995.

In its submission to the Inquiry, Tranz Rail made the point that its Safety System has been in place for many years:

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[7] page 6.

It was not a question of receiving approval, obtaining a licence and implementing the approved safety system overnight. Much of the safety system's content was the product of the continuous development over decades of codes and rail operating procedures. These already existed at the time the licensing regime began and were carried forward as part of the process of proposing a safety system and having that approved by the Director of LTSA (in consultation with the Chief Executive of the Department of Labour).

Tranz Rail argued that it had to apply considerable resources to develop further and to improve the existing safety system in order to establish, to the satisfaction of the LTSA, that the safety system was fit for approval. The LTSA approved the Tranz Rail safety system on 6 December 1995, and Tranz Rail made the point that:

It would be wrong to think that on 7 December 1995 there were any great changes in shunting yards, locomotive cabs, train control, track and structures, gangs, wagon and locomotive depots etc. Business went on as usual. Nor could there have been such an overnight change. The size and geographical spread of the organisation would not permit that. Even if it were feasible, it would not be prudent. There would have to be a phasing in of change in such a complex organisation with a number of interfaces, and interfaces at different levels.

The approved safety system

The introduction of new legislation and the need for licensing did not in itself confer new or changed risks upon the operation of the rail services; it did, however, require the system to be expanded to reflect the requirements of the legislation.

The additions to the Tranz Rail safety system in response to the regulatory requirements were:

- risk assessment;
- change management control during restructuring;
- hazard identification;
- workplace safety plans;
- occurrence management; and
- crisis management.

A key point about the nature of the *Approved Safety System* is that it contains two disparate elements:

- the traditional engineering and operations rules, guidelines and codes of practice, which deal with the *here and now* of running the railway, and which have evolved over time, and;
- the new processes, which also seek to deal with the *here and now* aspects of running the railway but from a systems perspective. These have a wider application in handling the identification and management of hazards and risks that face future railway operations and potential future changes.

The over-arching document that links the safety system is the Safety Management System Manual (Q300). This document was initially issued in 1994 and has subsequently been revised and reissued on four occasions, most recently in May this year. While this document shows the position of the different documents within the safety system and can offer the impression that the component parts of the system are integrated, it is unlikely that the relationship between the *traditional* codes and practices and the *new* risk management aspects of the system has as yet been thoroughly developed.

In particular, we believe that the elements of the new system covering risk management and hazard identification have yet to be effectively implemented at local levels. While the necessary infrastructure in terms of processes and local health and safety committees is in place, it appears that its usefulness has yet to be fully exploited.

Scope

The *Approved Safety System* covers all aspects of the safe operation of rail service vehicles over Tranz Rail's network. It also covers all aspects of mechanical, infrastructure and service delivery activities that are not directly associated with the operation of a rail service vehicle. The safety system also covers the activities at the company's workshops at Hillside, Dunedin and Woburn, Lower Hutt.

Given the inter-related nature of railway endeavour, which requires that all the component parts of the system operate in a satisfactory manner, there are no distinct boundaries between those activities that are directly related to the operation of a rail service vehicle and those activities that are indirectly associated.

Therefore the *Approved Safety System* does not neatly fall into either meeting the requirements of the TSL Act to the exclusion of the HSE Act, or meeting the requirements of the HSE Act to

the exclusion of the TSL Act; its scope encompasses the requirements of both Acts and does not discriminate between the two.

Content

The content of the *Approved Safety System* can be described as comprehensive and voluminous. This reflects the observation made at the start of this part of the report that safety in rail systems relies heavily on the widespread execution of numerous routine tasks, and specifying those tasks requires extensive documentation.

The major documents within the system are organised and listed as follows:

Corporate Documents

(These documents are controlled at corporate office level)

- Safety Management Manual
- Principal Operating Parameters
- Occurrence Management Manual
- Environmental Management Manual
- Environmental Care Handbook Health and Safety Guide
- Change and Risk Manual
- Accident and Incident Registers
- Workplace Safety Plans
- Hazard Summary Plans
- Group Documents.

Rail Operations Documentation

This covers the operation of rail service vehicles on main lines and yards throughout the network, and includes the operating rules and regulations covering the different signalling systems employed on the network.

Mechanical Documentation

This includes 11 codes/manuals relating to the design, construction and maintenance of rolling stock.

Infrastructure Documentation

This covers numerous standards and codes of practice for the design, construction, inspection and maintenance of all infrastructure assets (structures, track, signalling and electrical systems).

Freight Handling Code

This code contains the guidelines for the handling of freight.

Safety system documents: summary

There is no definitive list available recording every single document within the *Approved Safety System*, but Tranz Rail estimates that the number of documents involved is in the range of 1,000 to 2,000 and the number of drawings is in the region of 100,000. It would appear that the scale of documentation is unmanageable relative to the aim of securing a safe system. It should be recognised that some documents are more central to occupational safety and the operation of train services than others. To illustrate the extremes of the coverage of the system, one need only compare the presence of document No F013 *Dangerous Goods Procedures (Acceptance and Forwarding)* with that of document No P090 *Tranz Scenic Food Guide* – both have a legitimate place within Tranz Rail's *Approved Safety System* as it is currently defined; they do not, however, have an equal weight in delivering a safe railway system.

Variations of the approved safety system

The sheer extent and coverage of the *Approved Safety System* renders it unwieldy and probably impenetrable to outside observers – this feature was commented on in a number of submissions to the Inquiry. It has also led to problems in adhering to the legislative requirements and to a Memorandum of Understanding entered into by Tranz Rail and the LTSA, whereby Tranz Rail submits to the LTSA any changes that it believes will significantly affect the risk profile of operations.

Section 6E(1) of the TSL Act reads as follows:

> *Any rail service operator may at any time apply to the [LTSA] for approval of any variation of the operator's approved safety system.*

Section 6E(3) then provides that the proposed variation is to be considered as if the operator were proposing a new safety system, and section 6G sets out the procedure to be followed and specifies in sub-section (3) that a variation is not to have effect until approved.

Tranz Rail contends that the effect of section 6E(1), and in particular the phrase *may at any time apply* in the first line, is to give the operator a discretion whether or not to seek approval of a variation. In our view that interpretation cannot possibly be correct; if it were, the logical consequence would be that the day after obtaining approval to a safety system the operator could, if it wished, change the system substantially without the approval of the LTSA. In context, the word *may* is empowering the operator to seek a variation, not giving it a discretion whether or not to seek approval to the variation.

It is understandable that Tranz Rail advanced the argument that it had a discretion whether or not to seek the approval of the LTSA to variations of its safety system. What we cannot understand, however, is that the LTSA acquiesced in this approach. What we find even more surprising is that, after having acknowledged in its own publication[8] and when appearing before the Inquiry at a public hearing that section 6E did not confer a discretion on the operator, the LTSA then sought to resile from this position. In a subsequent letter to the Inquiry dated 7 August, it contended that the use of the words "*may at any time apply*" *imports a degree of uncertainty as to the exact interpretation of the section.* We can only express surprise that a regulatory authority should apparently be prepared to countenance an interpretation which is in our view contrary to the plain and unambiguous wording of an important provision in its empowering statute.

The obligation to obtain approvals to any variation is in itself a clear pointer, we believe, to the legislative intention that the safety system contemplated by section 6C is a high level concept, variations of which would not be common, rather than a very detailed regime which would be likely to require numerous variations.

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[8] *Road Safety Licensing and Audit Guidelines,* quoted at page 7.

Audit

Tranz Rail conducts a number of internal audits to assess the levels of compliance with the safety system. A number of external audits are also conducted by Telarc, an independent auditor, to the same end. We comment in Part 5 of the report on the efficacy of the audit regime.

Accident and incident reporting

Tranz Rail has in place a comprehensive system for the reporting and recording of all accidents and incidents, with the resultant data being available as a basis for remedial action by individual managers. There is also a well-defined regime in place covering the reporting of accidents and incidents to external agencies.

Summary

Mr Rayner reviewed the *Approved Safety System*. His comments provide a useful summary of this part of the report. Mr Rayner found that, throughout Tranz Rail, there was a high level of understanding of safety management by managers and supervisors. In forming an overview of the safety system, he noted that the safety system as implemented has two objectives:

- operating a system that provides a range of services that will operate without harming or damaging customers, their property, or the public; and
- operating a system that minimises the risk of accidents to staff or contractors.

In the view of Mr Rayner, the safety system operates with good effect in terms of the first of these objectives. He considered that the safety system is fit for the control of network safety involving engineering and train service delivery.

Mr Rayner concluded:

> *I find the organisation of safety management appropriate for the scope and scale of the Tranz Rail activity. It accords in most respects with the best practice elsewhere in the world.*

However, he was not as convinced that the implementation of the safety system is totally effective in ensuring high levels of occupational safety among the Tranz Rail workforce and contractors. Mr Rayner observed:

There is a multiplicity of processes and initiatives to achieve higher levels of occupational safety performance, and in aggregate they have brought major improvements in recent years. I have a strong impression, however, that other business pressures and priorities have dominated the management agenda and diverted attention from a concerted, company wide effort to address occupational safety management. As a result, the overall performance lags behind international standards which have themselves advanced markedly in recent years.

We have no reason to doubt the accuracy of Mr Rayner's assessment. Indeed Tranz Rail has, in comments to the Inquiry, accepted that this is the case and has initiated a major drive to improve occupational safety, which involves a switch in attitudes by management and staff. The new Managing Director is heading these initiatives.

PART 5

SAFETY AUDITS : TERM OF REFERENCE 2 (b)

This Term of Reference requires consideration of the effectiveness of the auditing of the *Approved Safety System* and Tranz Rail's compliance with it.

The TSL Act contains requirements for the auditing of an *Approved Safety System*. Section 39G requires that the LTSA approve the safety auditor. Rail service operators, with the exception of Tranz Rail, are audited on an annual basis. Because of the size and number of operational locations at Tranz Rail, one third of all Tranz Rail operations are audited each year. Following each audit, a report must be provided to the LTSA. This report must state, among other matters, whether or not safety standards and operating procedures, as set out in the *Approved Safety System*, have been complied with.

The LTSA publication *Rail Safety Licensing and Audit Guidelines* describes as follows the purpose and nature of the rail safety auditing regime:

The overall objective of the regular audit process is to verify that there is compliance with the operator's documented safety system and that it covers all safety-related issues in an acceptable way. An audit is not an inspection. For example, it is not the auditor's role to inspect track but rather to ensure that the track has been inspected at the specified intervals, by the specified person, and that the inspector is satisfied it meets the specified standards set out in the safety system. Where it does not, the auditor is required to note non-compliance and the actions to be taken to ensure any deficiencies identified by the inspector are remedied in a timely manner. The task of the safety auditor is to judge that a sound and appropriate safety system is established and to monitor on a continuing basis the standards within that system and compliance with that system.

It would seem from this description of the safety auditing function that the audits are intended to verify, from an examination of systems, that specified actions have been taken. Telarc is the auditor responsible for carrying out the safety audits of Tranz Rail.

The LTSA, in its submission to the Inquiry, described the auditing of Tranz Rail in the following terms:

Since the safety audits of Tranz Rail by Telarc were first introduced in 1995, the LTSA has worked closely with Tranz Rail's own internal auditors and Telarc to continuously improve the regular audit process. To further improve the audit process, LTSA engaged (in 1999)

International Risk Management Services (IRMS), a UK based firm specialising in risk-management with expertise in railway operations, to assess the auditing of Tranz Rail and to make recommendations for improvement. Since mid-1999 Tranz Rail, Telarc and LTSA have worked together to bring IRMS findings into effect.

The submissions to the Inquiry from both Tranz Rail and the LTSA indicated that the safety audits of Tranz Rail have been comprehensive and that there is a high level of compliance with the safety system. However, we do note that an appendix to the Telarc submission to the Inquiry enclosed correspondence between the LTSA and Telarc, which painted a different picture from that presented by the LTSA to us. It was helpful of Telarc to provide this information to the Inquiry, and it is to be commended for doing so.

In a letter faxed to Telarc from the Manager of the LTSA Rail Safety section, dated 15 December 1999, the Manager expressed grave concerns over the safety auditing of Tranz Rail. The Manager said that the LTSA, for over two years, had expressed concerns over the safety auditing and believed there had been little improvement.

His letter went on to say:

My colleagues and I have become increasingly concerned recently from the reading of the Transport Accident Investigation Commission reports which point specifically to areas of Tranz Rail's operations in relation to knowledge and application of procedures, code amendments, failure to appreciate maintenance problems, poor technical practices and training deficiencies. We believe these are all factors that should emerge through diligent audit reporting procedures.

This eight-page letter listed concerns about the most recent audit report and concluded with the comment that the LTSA would have to assess its options with respect to safety audit for it to fulfil its legislative duties.

In its reply to this letter, Telarc expressed some confusion as to the LTSA position. Telarc noted that in October 1999 a member of the LTSA Rail Safety section had written to it advising that *we continue to be pleased with the improved audit reporting*.

Telarc had assumed from this comment that the LTSA had no issues with its auditing. The reply from Telarc also pointed out that Telarc had written to the LTSA in September 1999 enclosing a copy of the proposed audit report format for the forthcoming audit of Tranz Rail and seeking the comments of the LTSA on the proposed format. The LTSA never replied.

Telarc had to telephone the LTSA and received verbal feedback that the LTSA was happy with the report format. Yet, after receiving the draft report on the Telarc October audit of Tranz Rail, the LTSA wrote the critical letter to which we have referred.

At the public hearings of the Inquiry, the LTSA assured us that it is now satisfied with the Telarc auditing. The assurance was expressed in general terms and did not deal with the specific issues covered in the letter of 15 December. Our review of the audit reports presented to the Inquiry, information about the scope of the audits, the high level of reported compliance with the *Approved Safety System*, and the endorsement of the Telarc auditing by an overseas auditor, International Risk Management Services, suggest there should be no concerns with the safety auditing of Tranz Rail.

The LTSA letter of 15 December does, however, leave us in some doubt as to whether the LTSA should be entirely satisfied that the auditing of Tranz Rail provides the level of assurance that the LTSA expects. We are unclear, given a review in April 1999 which reported favourably on the Telarc auditing and the assurances given to Telarc by the LTSA that it was happy with the auditing, why, in December 1999, the LTSA should write such a critical letter and claim that it had had these concerns for some time. This is unfair to Telarc and creates confusion as to whether or not the LTSA is unhappy as to the safety auditing of Tranz Rail.

It may be that the LTSA unease with the safety auditing carried out by Telarc is because the LTSA was not comfortable with the Telarc quality-based auditing in relation to occupational safety. Telarc has described this audit method as *analogous to a warrant of fitness applied to an organisation's procedures and systems.*

Mr Rayner, in his report, observed:

Moreover, it is in the area of occupational safety management, with its strong cultural influences, that the quality-assurance style of compliance auditing is at its least effective, and can fail to uncover weaknesses in attitudes and behaviours that prejudice personal safety.

Whatever the situation, the LTSA needs to clarify its position over the Telarc auditing.

We also note that on page 5 of its letter of 15 December 1999 to Telarc, the LTSA said:

The GHD Transmark reports of 1996 have recently become relevant again due to the unfortunate accident at Waipahi and associated recent considerations of Track Warrant Control. Were all of their recommendations implemented? Was the Risk Management

study of TWC completed? Has it been audited? Whilst comment may not have been directly relevant in your most recent report we are not aware the safety of TWC has been addressed by Telarc as an audit issue in recent years. Perhaps it should have been.

The 1996 report on Track Warrant Control was commissioned by the LTSA, and covered what is described by the LTSA as an important safety issue. Because Track Warrant Control is the system that ensures only one train or other rail service vehicle is on the same stretch of track at the same time, we would agree that this is a very important safety issue. But it is surprising that, three years after this review, the LTSA should be critical of Telarc for not checking to see if the recommendations of a report commissioned and paid for by the LTSA had been implemented. It might be expected that the LTSA would have checked to see if the recommendations had been implemented rather than wait three years and then raise the matter with Telarc. As the LTSA is consulted before the start of each audit, it could also have notified Telarc of its wish to have Track Warrant Control included in the audit programme.

Payment for safety audits

In its submission to the Inquiry, the RMTU advised that:

RMTU does not accept that the current TSL Act requirements ensure the independence of safety auditors. They must be paid by the rail operator who may also propose them as auditors.

In reply to this point, Tranz Rail stated that:

In respect of the payment of auditors, Tranz Rail would be happy to relinquish liability for external auditor's accounts for the sake of appearance. However Tranz Rail does not consider the payment of the auditor by the auditee impugns the independence of the auditor. In most cases, if not all, in the commercial world it is the entity being audited that is liable for the auditor's bill.

It is important to note that Telarc, in addition to its role as LTSA's approved Tranz Rail auditor under the TSL Act, is also employed by Tranz Rail to audit its management system to comply with the requirements for an external audit of the system to meet Tranz Rail's International Standards Organisation (ISO) 9000 certification requirements. Tranz Rail has explained that, in practice, Telarc annually undertakes sufficient auditing of Tranz Rail's safety and management systems to fulfil both its ISO and TSL Act requirements simultaneously. Telarc's audit reports are divided into two parts; one part deals with matters

affecting rail safety systems and the other part deals with matters that are management systems issues.

Because the audits are combined in this way, and paid for by Tranz Rail, the question arises as to whether the safety audit work, which is intended primarily to provide assurance that there is compliance with the *Approved Safety System*, will receive greater priority than the management audit work. For example, the Tranz Rail submission listed the focus areas of Telarc audits in the period 1997 to 1999. In that period, there were five Telarc audits of corporate services compared to three audits of shunting operations. It is in shunting operations that most fatal accidents have occurred and it might have been expected that, from a safety point of view, shunting operations would have received greater audit attention than corporate services.

Tranz Rail made the point that its internal audit group regularly reviews shunting operations, and since 1993 has completed 25 audits of shunting operations. However, we see such audits as having a different function from safety audits that are intended to provide confirmation to the regulator of compliance with the *Approved Safety System*.

In our view, the LTSA should employ the safety auditors, and pay for the safety audits, and in this way ensure that audits are directed to areas of concern identified by the LTSA. The cost could be recovered by way of a levy on operators. In the case of those operators, such as heritage operators, where only minimal audit fees are charged, the levy should reflect the size of these charges.

Involvement of the RMTU

In its submission to the Inquiry, the RMTU argued that there is no requirement for the safety auditor to consult with employees during or after the audit process. The RMTU believes that this failure to establish formal links with employees deprives the auditor of a valuable information resource. We agree. All parties to this Inquiry have gained considerable insight into safety issues as a result of the evidence of past and present employees. There should be provision in the legislation to ensure there are formal links to employees.

Summary and recommendations

In our view, it is not appropriate for the LTSA, which has such a key role in the supervision of the safety function at Tranz Rail, to assure the safety auditor that it is happy with the standard

of auditing, and then write to the auditor stating that the LTSA has had longstanding and serious concerns with the safety auditing.

We are concerned that the LTSA should, in effect, blame Telarc for a failure to review the implementation of a report commissioned and paid for by the LTSA and, further, wait three years before voicing its concerns. This suggests that the LTSA is not active in exercising its role of reviewing safety operations.

We recommend that the LTSA provide, as a matter of urgency, a report to the Minister of Transport which:

- explains, in detail, how all the concerns expressed in the letter of 15 December have been met;
- states whether the LTSA is satisfied that current audit methodology allows for effective monitoring of the safety performance of Tranz Rail, including the occupational health and safety culture of Tranz Rail; and
- explains the extent to which the recommendations on Track Warrant Control, to which it agreed, have been implemented.

We also recommend that section 39G of the TSL Act be amended to require the LTSA to employ the auditors and pay for the audits of *Approved Safety Systems*, and that operators be levied to cover the cost of audits.

We further recommend that the RMTU should be formally consulted before each safety audit in order to ensure that the auditor is aware of safety issues of concern to employees.

PART 6
ACTUAL PRACTICES : TERM OF REFERENCE 4

This Term of Reference requires the Inquiry to identify and consider actual situations and practices in Tranz Rail that are relevant to the operation of a safe and healthy workplace.

The discussion that follows focuses on a particular safety critical area, shunting, rather than considering the full range of safety practices within Tranz Rail.

Shunting operations

As noted in the introduction to this report[9], the majority of the fatal and serious accidents at Tranz Rail are in shunting operations. Shunting is widely recognised as one of the more dangerous activities in a rail operation.

In 1995, following a number of serious shunting accidents, Tranz Rail set up the Shunt Review Team. This included RMTU representatives. The Review Team visited many shunting sites and talked with shunting staff. There were two significant recommendations from the work of the Shunt Review Team, which have been implemented:

- provision of a *refuge* riding position on heavy shunting locomotives, replacing the footplate, because riding on the footplate left the shunter too exposed; Tranz Rail modified 80 locomotives (at a cost of $3 million) to provide these refuges; and
- development of a new design envelope for footsteps and hand grips provided for wagon riding positions in order to ensure greater safety for shunters riding on wagons; over 1,015 wagons have been fitted with the new handgrips.

Other safety initiatives have been undertaken to increase the safety of shunters. In 1997, Tranz Rail banned *loose shunting*, the practice of using the shunting locomotive to push a rake of wagons and then applying the locomotive brakes, leaving the uncoupled wagons to continue free wheeling on the track. Correct performance of this task requires a high level of skill. Loose shunting presents a hazard to shunting staff, who may have to board a fast-moving wagon to apply the hand brake, and a hazard to other staff in the yards not directly involved with shunting. Tranz Rail commented in its submission to the Inquiry that:

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[9] page 1.

Because in the main the Company was dealing with a shunting workforce with many years of loose shunting experience, it proved a long, and at times frustrating, period for managers trying to break this long established practice. This varied from yard to yard or, in some cases, team to team, or individually. Some saw the sense of why the Company was taking this initiative, whereas others were more reluctant, some because of concerns they would not complete their work time, others preferred the more "macho" method.

Tranz Rail has persevered with the ban on loose shunting and audits of shunting operations show a high level of compliance with this instruction.

Following the fatal shunting accident at Christchurch in May 2000, the boarding and alighting of moving wagons was prohibited. Tranz Rail commented that *given our experience with "loose shunting" it is expected that it will take shunters some time to break another career-long practice.*

These and other commendable initiatives taken by Tranz Rail, in conjunction with its staff, are all intended to reduce the level of risk posed by shunting. Tranz Rail is also investigating further ways to improve the safety levels in the shunting area.

Other health hazards

The nature of the work and the make-up of the Tranz Rail workforce require that special attention be given to employee health. Among the inherent health hazards associated with the rail industry are shift work, manual handling and exposure to toxic chemicals and sunlight. It is difficult to ascertain from the submissions if all health hazards have been considered and either reduced or eliminated. However, shift work and working consistently long hours were identified as a health and safety risk in some submissions.

There is overwhelming evidence that both shift work and working long hours affect the physiological and psychological well-being of workers. Some examples of documented effects of shift work are coronary heart disease, gastrointestinal diseases and, more specifically, the dislocation of sleep patterns. While acknowledging that shift work is a reality in the rail industry (as it is in all the transport industries), when designing rosters consideration should continue to be given to its health and safety effects, as requested in many of the employee submissions. We note that previous work by Dr Phillippa Gander for Tranz Rail on techniques and guidelines on shift work proved to be beneficial to a designated group of locomotive engineers.

In addition, empirical research clearly shows that casualised workers are more vulnerable to working excessively long hours compared to those whose employment is more secure. We noticed from some of the submissions that those workers who were asked to work consistently long hours were some times *tier three casual workers*. As stated in the submission of Ioasa Iuni:

...I was employed as a tier 2 worker, and after 3 months I was put down to being a tier 3 worker. That means that you are not in the Union contract and you are really working as a casual worker and the Company just tells you when they want you to work, and you work and then wait and see whether you have another job or not.

Although Tier 3 workers comprise only 4.2% of all Tier 1, 2, and 3 employees, particular consideration should therefore be given to their health and safety.

Further safety initiatives: the Rayner Report

As we have recorded previously[10], Tranz Rail in June this year commissioned Mr Rayner to review safety issues at Tranz Rail. Mr Rayner is an internationally regarded expert on rail safety. His task for Tranz Rail was to give an overview of the safety issues following the recent workforce fatalities. Because Mr Rayner's report is of such value, we propose to refer to it in some detail.

Mr Rayner found that the business strategy of Tranz Rail:

has demanded very significant changes in the workforce attitudes and practices if the company is to prosper and grow in the highly competitive freighting markets in New Zealand. Nevertheless, it has inevitably introduced strains and conflicts into the working lives of many staff that have implications for their personal safety, and that of their workmates. In the first place, work is more demanding of the individual as productivity initiatives and demanning are implemented. Secondly, the increased requirements of service performance, punctuality, timed deliveries etc adds a set of time demands that may be in conflict with the traditional ways of doing things. To a longstanding workforce, that poses risks to safety. Added to this are two other factors of significance. First, that the round-the-clock, all-weather nature of much of railway work brings a level of casual absenteeism that creates short notice, unfillable gaps in work teams, and demands extra time worked, effort

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[10] page 4.

and vigilance by staff. This is evidenced by the long hours worked by some ground staff that I observed from scrutiny of timesheet summaries. Secondly, with demanning and a squeeze on numbers, the ground workforce is aging as promotional opportunities decline and recruitment slows or stops. This must, in some occupations like shunting and train driving, inevitably result in lower thresholds of fatigue and alertness, and the onset of health problems.

In our view, these comments by Mr Rayner about long hours, reduced staff numbers and pressure to complete work in time are consistent with evidence given at the Inquiry by Tranz Rail staff. They paint a picture of staff doing their best to cope in situations where they believe the level of safety has been compromised.

Mr Rayner went on to say, in amplification of his comments:

It is, I believe, factors such as these that an occupational safety-orientated safety management system must take into account if it is to be successful, and where a highly prescriptive system, mechanistic and insensitive to the changing work environment and the attitudes of individual workers, may fail to deliver the best achievable standards of occupational safety.

To illustrate his concerns about occupational safety, Mr Rayner noted that fatal accidents among staff are increasing and are concentrated among shunting staff – seven out of ten in five years. Mr Rayner concluded that, while shunting is recognised world-wide as a hazardous activity:

In Tranz Rail the rate of fatal accidents has reached a level where something radical must be done. As an outsider looking in, I observe a population of several hundred shunters, of average age of 42 and high by international comparison, almost 50% of whom have been working in the shunting yards for near to 20 years. Conversation with them confirms a strong and close culture; typically they came to shunting as young men because they liked the active life, and some will admit, they liked the element of risk. They now see themselves as locked into an activity with no obvious line of outward promotion. They are aware of the risks, observe the near hits (almost all have stories to tell) but have great difficulty in seeing how things can ever change. And as men with few formal skills, they fear losing their jobs and being thrown on a tight labour market. Management reaction to each accident is to further amend working practice, to augment, at 90 pages, an already weighty handbook of operating instructions for shunting yard staff whose real value to the people for whom it was produced must be doubtful.

Mr Rayner then set out his views on shunting at Tranz Rail:

The question has to be asked; can shunting ever be made acceptably safe? I observe that despite changes to shunting practice which have followed each accident, fatalities continue at an unacceptable rate. Certainly much has been done to attempt to make shunting less hazardous. Ground control of shunting locos and the reduction in the size of shunting gangs must have reduced the risks of misunderstood communications and unexpected movement of vehicles. But despite changes to authorised practice, compliance by the longstanding workforce, under pressure of seasonal traffic peaks and time sensitive cargoes, must remain an issue and the accidents continue to happen.

Mr Rayner considered that, in order to reduce shunting accidents, there is a need to curtail the amount of shunting, and that this could be achieved by use of software to prepare a yard shunting plan which minimises the number of shunting movements. He also suggested changing the type of wagon used to one that uses containers and involves less shunting movements.

Mr Rayner proposed a staged approach to reducing shunting accidents, the various stages being a combination of the ideas presented above and other observations made by Mr Rayner.

Mr Rayner concluded with the comment that:

Unless the shunting issue is approached in a strategic way, such as this, employing fresh minds to probe the real potential for eliminating a method of working that is inherentlyhazardous, then I fear Tranz Rail will continue to sustain fatal accidents in its yards. But it will take a great deal of determination to convince staff, unions, managers and customers to see it through.

Tranz Rail has indicated that that it intends to implement the recommendations of Mr Rayner and has taken immediate action on some recommendations. For example, in relation to the recommendation that Tranz Rail conveys to staff its commitment to improve and maintain occupational safety performance, the company advised the Inquiry that:

The Managing Director, Michael Beard, has committed to improving the occupational safety performance of the Company. A letter to all staff, jointly signed by Michael Beard and Wayne Butson, General Secretary of the Rail and Maritime Trade Union, was sent to the homes of all Tranz Rail staff last week. The letter clearly signals the commitment of the

Company to take whatever steps are necessary, with the support of the RMTU, to introduce and enforce health and safety policies, procedures, and work practices.

Tranz Rail has also advised that, in line with the recommendations made by Mr Rayner to improve the safety of shunting activities, a list of 26 safety initiatives has been developed and implementation of these initiatives is well under way. These initiatives and a timetable for their completion are attached as the Third Schedule to this Report. Tranz Rail is to be commended on the way in which it has set about improving occupational safety and the way in which it is targeting shunting as an area where safety must be improved. Unfortunately, however, the RMTU informed us that Tranz Rail's employees have not seen, let alone endorsed, these initiatives. Implementation of the initiatives should be in conjunction with the RMTU.

In its efforts to improve safety in the shunting area, Tranz Rail must constantly keep in mind the warning sounded by Mr Rayner that, unless the shunting issue is approached in a strategic way, fatal accidents will continue to be sustained in the shunting yards.

Recommendation

We recommend that the LTSA monitor the progress achieved by Tranz Rail in implementing the 26 shunting safety initiatives and keep the Minister of Transport informed.

PART 7
ATTITUDES AND INFLUENCES : TERM OF REFERENCE 5

This Term of Reference asks the Inquiry to consider any attitudes or influences within Tranz Rail that may be relevant to the operation of a safe and healthy work place.

In essence, the Inquiry is asked to examine the culture at Tranz Rail to determine if there are any aspects of this culture that may work against a safe and healthy work place.

By way of introduction to this section, we note that world-wide the railway industry is not generally *high tech*. Although there are some sophisticated systems, the basic technology remains unchanged. Many of the safety rules developed over decades remain in place as they are still as valid today as when they were first introduced. The longstanding nature of many of these working procedures may also at times be associated with a reluctance to contemplate changes to accepted workplace practices.

In its submission, Tranz Rail informed us that:

Tranz Rail has sought and continues to promote initiatives that reinforce and encourage a culture that focuses on and seeks to improve safety in the workplace and service to customers. However, changing the culture of an organisation or of a group within an organisation can take time and needs care. Consideration needs to be given to whether a particular emphasis or strategy utilised to affect or change culture will in fact have the desired result in terms of improvement in safety or service. In other words, the cause and effect of any single influence or attitude is also difficult if not impossible to gauge.

We agree that it would be very difficult to point to any single influence or attitude to demonstrate a cause and effect.

Tranz Rail also set out a brief history of the rail system in New Zealand and an age and gender profile, all of which information is useful as a background to understanding current attitudes and influences within Tranz Rail.

For almost a century, from the 1880s to 1981, New Zealand's railway system was owned by the Government. Between 1936 and 1984, it was to varying degrees protected from competition with the trucking industry and, in the assessment of Tranz Rail:

The culture in this period was based on the ideal of a job for life. Given the security of tenure for most employees, the Department was able to foster its own sense of family and community. For example, many employees lived in Railway houses owned by the Department, at minimal rents. As these houses were grouped together, working for the Department was not only a job, but a lifestyle.

From 1982 to 1990, the Department became a Government Corporation, known as the New Zealand Railways Corporation. Protection from the trucking industry was lifted and there was a greater emphasis on cost efficiency and downsizing the organisation. Over this period, staff numbers reduced from more than 20,000 to approximately 6,800.

In 1990, the Corporation became a Government-owned company, New Zealand Rail Limited, with a focus on achieving a profit, rather than just cost reduction. Over the period 1990 to 1993, staff numbers reduced from 6,800 to 5,000.

In 1993, NZ Rail was sold to a consortium of private owners who have placed an increased emphasis on improving productivity. Staff numbers have reduced to the current level of 4,100.

There has also been an increased emphasis on safety, described by Tranz Rail in the following terms:

In terms of safety, this era saw the introduction of a formal compliance regime supplemented more recently by the Accident Prevention Programme, which looks to improve processes and safety by instigating behavioural change and encouraging the involvement of all employees in the discussion and practice of safe behaviour.

Tranz Rail has summarized the fundamental changes to New Zealand's railway company over the last 20 years as follows:

(a) focus has changed from engineering/social objectives to commercial objectives;

(b) approximately the same tonnage of freight is moved by significantly fewer staff;

(c) there has been a reduction in the number (but not type) of wagons;

(d) noticeably, however, there has been little change in work methods, particularly in the operating environment. An exception is the introduction of remote control shunting, but otherwise,

trains are loaded, marshalled and run using similar technology but less staff than in the past; and

(e) changes to the structure and responsibilities are likely to have been made more than once for employees with lengthy service. As will be noted later, a high percentage of current employees have been employed with Tranz Rail's predecessors.

The reference in the last of these points to the high number of employees who have worked for Tranz Rail's predecessors is to the fact that 43% of current employees were engaged before 1 April 1982 and have therefore worked for all four entities; NZ Government Railways, NZ Railways Corporation, NZ Rail Limited and now Tranz Rail.

Of the locomotive engineers, 84% were first employed by NZ Government Railways, some time before 31 March 1982.

89% of the total workforce is male. In occupations other than central office and maritime environments, 97% of employees are male. Tranz Rail is a multicultural organisation, with the largest cultural group, other than Pakeha, being Maori. Tranz Rail data on the ethnic make up of new employees shows that 69% are Pakeha, 21% Maori and 9% Polynesian.

The average age of Tranz Rail employees is 42 years, four years older than the current average age of New Zealand's workforce. The average age of various occupational groups within Tranz Rail is as follows:

Occupational group	**Average age**
Signals, communications	42
Track and structures	46
Mechanical engineering	43
Locomotive engineers	46
Shunting	42
Freight operations	40
Maritime	43

Tranz Rail, in its submission, commented at some length on the sub-cultures of the various occupational groups. In relation to the key shunting group, it stated that:

> *The job of shunting is not merely a physical job requiring, if you like, "brawn and no brains" – on the contrary, shunting requires intelligence. Logical thought processes and planning are important if a shunter is to get their work completed in an efficient manner. A "good" shunter is considered someone who thinks several moves ahead and is considering the most efficient way of aggregating tonnage.*

Tranz Rail went on to report that:

> *A culture of "job and finish" has existed in the yards in the past. The "job and finish" terminology has come from the practice of the shunt team finishing their shift when their allocated work had been completed, not necessarily their rostered shift.*

Tranz Rail thus seemed to be suggesting that the culture in shunting has been for employees to try and complete their work as soon as possible, so as to finish earlier. The implication is that this encouraged unsafe practices. Tranz Rail also believes that, in shunting, there has been a culture of higher risk taking, and commented to the Inquiry that:

> *In many ways, the "young man's game" is the part of shunting that we in Tranz Rail, employees and management, have to eradicate in order to reduce the risk of harm to employees.*

Tranz Rail detailed the changes that have been made to improve the safety of shunting and concluded that:

> *The changes have resulted in the work of a shunter being slower and more deliberate. Athleticism is no longer an inherent trait or pre-requisite of an efficient shunter. Given the feeling of ownership of the job, some shunters with pride in their skill have not wholly welcomed these changes. For example, the prohibitions on loose shunting and boarding and alighting moving vehicles has sparked discussion amongst shunters about how boring the job has become.*

The impression we gained is that, with occupational groups such as shunters, Tranz Rail has found it difficult to change attitudes to safety and that, where there are safety problems, this is because employees are reluctant to change. This reluctance may, in the view of Tranz Rail, be because of the length of service of many employees and the traditions that have developed around shunting.

While it is possible to point to attitudes that have developed around shunting and the need to change these attitudes, there are other factors at work. Indeed, as we have already noted[11], Mr Rayner observed that management reaction to each accident in the shunting yards was *to further amend working practice, to augment, at 90 pages, an already weighty handbook of operating instructions for shunting yard staff whose real value to the people for whom it was produced must be doubtful.*

In other words, there may be a belief that, by prescribing more and more rules, Tranz Rail seeks to ensure that it cannot be blamed because it is always possible to point to a rule that has been breached.

To like effect, a review conducted by ACC in July 2000, as part of the requirements for Tranz Rail to enter into the ACC Accredited Employer programme, observed that:

> *The employee culture is one where employees may not read or write widely. Reporting and information processes that require a large amount of paperwork have been recognised by the company as a barrier to effectively collating information and understanding issues. For instance, placing the site safety plan on the board in the staff room may not serve any purpose other than to meet the performance objectives of management.*

The submissions to the Inquiry of injured workers and the families of employees killed at work suggested a culture among some Tranz Rail management staff that the need to get trains out on time is of the prime consideration.

Mr Iuni, a shunter who had his leg amputated after falling under a wagon when the hand grip he was holding gave way, described the working pressures on one occasion as follows:

> *One time I had done my 12-hour shift. I had started at 2 am and knocked off at about 3 pm and then went over to the Thistle to have a beer after I had finished my work. [The supervisor] came over from the yard and asked me if I would come back to work.*
>
> *I said: "I have just done 12 hours and I've only drunk half my beer and no, I don't want to come back to work."*
>
> *[The supervisor] said to me: "well if you don't come, then we won't be able to do the shunt for the ferry and so the freight will not go." I still said that I had just done 12 hours and I*

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[11] page 36.

didn't want to do any more work but he kept saying about how if the shunting was not done then the freight would not go on the ferry, and in the end I felt I had to say yes I would do the job.

I finished my beer and went back and worked another 8 hours.

Mr Iuni added, very fairly, that his supervisor was taken to task the following day by the Terminal Manager for allowing Mr Iuni to work these hours. But this only reinforces the concern that frontline supervisors may feel obliged to require unsafe practices because of the pressure on them to get the work done.

The sister of a shunter killed in the shunting yards told us:

Rob wasn't rostered on the day he died, he was doing overtime to assist Tranz Rail when a fellow worker got sick … On more than one occasion Rob stated money was more important to Tranz Rail than people. Rob often stated that staff cuts in Tranz Rail had meant there were not enough people to do the work that needed doing and as a result staff were in danger.

The Palmerston North Branch of the RMTU, in a submission to the Inquiry on behalf of shunting staff said:

Supervisors/Managers have little regard to the hours of duty when it is necessary to cover a job with little regard to their fitness to carry out these duties … Shunting is a hazardous occupation at the best of times but with staff being expected to work shifts of great lengths obviously the risk of accidents must be greatly increased.

From the shunters' viewpoint, they thus see themselves continually being placed at risk through having to work extra hours and to cover situations when there are not enough staff available.

Mr Rayner drew attention to the fact that the reduction in staff numbers, the pressure for greater productivity, and the round-the-clock, all-weather nature of railway work means that, when ground staff are sick or absent, unfillable gaps in work teams are created. He suggested that the pressure to ensure work is completed will, in occupations such as shunting, result in lower thresholds of fatigue and alertness.

Tranz Rail contends that no employee should ever compromise safety to ensure that trains and freight are moved on time. A recent Tranz Rail survey of all staff showed that most

believe that the company and its managers value safety over the needs of customers. However, in our view, there are clearly times when the pressures on front-line supervisors in the shunting yards are such that they see the need to maintain productivity as the overwhelming imperative.

There is no doubt that there is a need to strengthen the safety culture among shunting staff, and both management and staff have been working together to improve safety. Tranz Rail will, however, need to re-examine management attitudes to ensure that, at critical times, front-line managers do not place a greater priority on maintaining productivity than on safety.

PART 8
CONCLUSIONS AND RECOMMENDATIONS :
TERMS OF REFERENCE 6, 7 AND 8

Legislative amendment

Four issues arise for consideration:

1. Should the protective provisions in Part II of the HSE Act apply to all rail employees?

2. Should section 6H of the TSL Act be repealed?

3. Should the procedure for approval of variations to the *Approved Safety System* itself be varied?

4. Should supervision of the occupational safety of employees of Tranz Rail be undertaken by the LTSA or OSH or both?

We now discuss these issues in turn.

The protective provisions

As we have explained[12], the occupational safety of employees of Tranz Rail is at present split between the HSE Act and the TSL Act, with responsibility for enforcement in the hands of OSH but subject to the constraints of section 6H of the TSL Act. This is, in our view, a quite unsatisfactory situation that involves arbitrary divisions and is likely to have been a contributing cause of the safety problems of Tranz Rail. The provisions of the TSL Act have resulted in OSH, in relation to rail workers, encountering a range of difficulties in enforcing legislation intended specifically to safeguard and improve the health and safety of employees.

There is, in our view, no justification for rail employees having a lower level of occupational health and safety protection than the work force generally. We therefore recommend that the provisions of Part II of the HSE Act that set out the duties of employers relating to health and safety in employment should apply without restriction to all rail employees. In doing so, we make three observations.

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[12] pages 6 to 9

First, given Tranz Rail's contention that the *reasonable cost* test in the TSL Act in substance imposes just as high a standard on it as the *all practicable steps* test in the HSE Act, we find it difficult to see how Tranz Rail could object to this proposition.

Second, we do not accept the contention of Tranz Rail that it should not be subject (directly or indirectly) to the requirements of the HSE Act while also being subject to the licensing requirements of the TSL Act. Quite apart from the point which we have already made that Tranz Rail's position is that there is in substance no material difference between the relevant legal tests, we see no reason in principle why Tranz Rail, in its capacity as an employer, should not be subject to the same occupational health and safety obligations to which New Zealand employers generally are subject, while also, in its capacity as a major transport operator, being subject to the licensing regime of the TSL Act in order to ensure the safety of the travelling public.

Third, we see considerable force in a submission by Tranz Rail that, in a situation where it competes directly against road transport operators, it should not be competitively disadvantaged by having greater responsibilities placed upon it than its road transport competitors. The Government may therefore wish to consider whether the protective provisions of the HSE Act should be applied with equal strictness to truck operations. (We note that this was indeed a recommendation of the 1996 report of the Transport Select Committee on its inquiry into truck crashes.)

Section 6H

We have no hesitation in recommending the repeal of this section for the following reasons –

- it restricts the application of the HSE Act to employees of rail operators;
- it acts as an incentive to formulate the *Approved Safety System* in unduly wide and detailed terms;
- the presence of the section acts as a deterrent to the enforcement of occupational safety provisions, whatever the enforcement agency;
- the practical application of the section has proved quite unsatisfactory, given the attempt of Tranz Rail to include all of its operating systems within the *Approved Safety System* and its attempt, with the acquiescence of the LTSA, to make variations to the *Approved Safety System* without following the procedure specified in the legislation;

- the section promotes a culture of blaming employees for accidents so as to be able to invoke the section; and
- the section is unnecessary because, if the employer is complying with an *Approved Safety System*, that compliance in itself would provide a ground of defence to a prosecution without the necessity to rely on the blunt instrument of the deeming provision contained within the section.

Section 6H should therefore be repealed.

Variations to the Approved Safety System

Although we have been critical of the LTSA for permitting variations of Tranz Rail's *Approved Safety System* without following the procedure specified in section 6E of the TSL Act[13], we recognize that the legislation is at present unduly rigid because it requires every proposed variation, however minor, to be assessed as if it were a new safety system. We therefore recommend that section 6E should be amended so as to require approval only of these variations that may impact materially on the safety of the rail operation.

We suspect, however, that, if section 6H is repealed as we have suggested, it is likely that Tranz Rail (no longer having the incentive to formulate the *Approved Safety System* as widely as possible) will introduce a much higher-level and less detailed safety system. This will, we think, reflect the original intention of the legislation and will make the whole question of variations a much less significant one. It will also remove any concern that Tranz Rail may have about including commercially sensitive information in what, we are recommending, should be a public document.

LTSA or OSH as the regulator

We readily acknowledge the fundamental difficulty that exists in creating the legislative model for the supervision of the occupational safety of the employees of employers who are carrying out transport operations that by their nature also have a public safety component. The Government could seek to achieve consistency in the supervision of the occupational safety of transport employees and other employees by conferring on OSH responsibility for the occupational safety of all. As a consequence, transport operators would be subject to

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[13] pages 23 and 24.

supervision for occupational safety by OSH and for public safety by the specialist regulators (the LTSA for road and rail, the Maritime Safety Authority for the sea and the Civil Aviation Authority for aviation) If however those specialist transport regulators were made responsible for the occupational safety of transport employees, responsibility for occupational safety would be split between OSH and the specialist regulators.

There is no easy answer to this conundrum. On balance, we think that the best solution is to leave the legal position where it would fall following the repeal of section 6H. The general provisions of the HSE Act would then apply, with the consequence that OSH would have responsibility for occupational safety issues in all aspects of rail operations.

Such an approach would have the following advantages:

- it is consistent with the *Robens* approach of *one Act administered by one authority*[14];
- it recognises the experience and expertise of OSH (not shared by the LTSA) in enforcing the provisions of the HSE Act through inspections, investigations and (where appropriate) prosecutions; and
- it avoids the difficult demarcation issues that necessarily arise if some rail occupational health issues are within the jurisdiction of the LTSA and others within the jurisdiction of OSH.

Having said this, we emphasise that in our view it is essential that the LTSA and OSH work together closely. While the focus of the LTSA will be on public safety and that of OSH on occupational safety, there will be substantial common ground. The LTSA and OSH must each ensure that they take advantage of the experience and expertise of the other and that no issues fall between them, while at the same time any duplication of effort is minimised.

The best way of achieving these objectives would, we think, be for the LTSA and OSH, in consultation with the RMTU and Tranz Rail, to develop and to agree upon protocols governing rail accident prevention and investigation. As one example, procedures should be specified to ensure the prompt notification to both the LTSA and OSH of serious accidents and their ability to have access to the scene. As a second example, OSH should be able to take

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[14] page 18.

advantage of the existing expertise of the LTSA in rail operations. The protocols, once agreed, should be approved by the Ministers of Labour and Transport and published.

The position of family members and workmates

As Dr King accepted in his closing comments[15], it emerged from the Inquiry that Tranz Rail must do more on a continuing basis for family members.

Tranz Rail must also in our view try to move away from the culture of blaming employees for accidents. The very presence of section 6H has, we think, been a reason why it has done so in the past, albeit unconsciously. It follows that the repeal of that section as we have recommended would of itself reduce the tendency to blame employees.

Coroners also have an important role in this respect. For example, the inquest into the death of the late Neville Bell in 1994 was understandably distressing to his relatives and workmates. Mr Bell died when a disused pole from which he was removing wire broke just below ground level because of decay and fell over. On any view of the evidence, substantial causes of the accident were the failure of the NZ Railways Corporation to remove the pole when it was discovered in 1988 to be unsafe and the subsequent failure of NZ Rail and then Tranz Rail to warn that the pole was unsafe. Notwithstanding this, the Coroner added to his finding of the cause of Mr Bell's death the words:

> *Pursuant to section 15(1)(d) of the Coroners Act 1988 I note that there were Safety Rules for checking poles before cutting wires. It is a tragedy that these rules were not followed. I hope that this death will be a lesson.*

If the office of Chief Coroner is established, as recommended by the Law Commission in its recent report on Coroners[16], the Chief Coroner should give consideration as to how Coroners can balance the desirability of making constructive comments directed to reducing the risk of future similar accidents with concern for the feelings of relatives and workmates.

Safety within Tranz Rail

While we have, as required by our Terms of Reference, found that there is an existing (and indeed acknowledged) safety problem with Tranz Rail, we are confident that Tranz Rail has

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[15] quoted at page 5.

[16] Report 62 (August 2000).

the capacity and the willingness to address this problem. As we have already noted[17], the very action of Tranz Rail in obtaining and in making available to the Inquiry the report of Mr Rayner is confirmation of this.

Further confirmation is to be found in the actions of the new Managing Director of Tranz Rail, Mr Beard, in taking an obvious personal interest in safety issues and translating this into the letter that he has already written to all employees of Tranz Rail jointly with the General Secretary of the RMTU, Mr Butson. Moreover, we have been most impressed by the calibre of the senior executives of Tranz Rail who represented the company at the Inquiry. We accept without question their personal commitment, as well as that of their employer, to improved safety.

Summary of recommendations

For the reasons we have set out, we make the following recommendations:

1. The *Approved Safety System* required by the TSL Act should be a public document.[18]

2. Any recommendations of the TAIC should be implemented unless the operator can demonstrate to the TAIC or to the Minister of Transport that it is not practicable to do so.[19]

3. The LTSA should report urgently to the Minister of Transport on the concerns that it expressed in its letter to Telarc dated 15 December 1999, its assessment of current audit methodology and the implementation of Track Warrant Control recommendations.[20]

4. Section 39G of the TSL Act should be amended so as to require all safety auditors to be appointed and paid by the LTSA, funded by levies on the rail operator.[21]

5. The RMTU should be formally consulted before every safety audit to ascertain safety issues of concern to employees.[22]

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[17] page 4.
[18] page 15.
[19] page 17.
[20] page 32.
[21] page 32.
[22] page 32.

6. The LTSA should monitor the progress of Tranz Rail in implementing its shunting safety initiatives, and keep the Minister of Transport informed.[23]

7. The provisions in the HSE Act that impose duties on employers should apply to Tranz Rail in relation to all its non-maritime employees at all times. Section 6H of the TSL Act should therefore be repealed.[24]

8. Section 6E of the TSL Act should be amended to require approval only of those variations to the *Approved Safety System* that may impact materially on the safety of the rail operation.[25]

9. In consultation with the RMTU and Tranz Rail, the LTSA and OSH should develop protocols (to be approved by the Ministers of Labour and Transport and published) for working together in the prevention and investigation of rail accidents.[26]

10. Further support should be provided by Tranz Rail on an ongoing basis to the immediate families of the victims of fatal accidents.[27]

Concluding comments

For the reasons we have discussed[28], we have deliberately not gone into detail in considering particular safety issues, other than by way of examples of more general propositions.

Rather, we have sought to identify the key solutions as we see them to the acknowledged safety problem within Tranz Rail. While the risk inherent in some rail operations, particularly shunting, can never be eliminated, we think that the implementation of our recommendations would minimise that risk and thus prevent as far as possible further fatal or serious accidents to employees of Tranz Rail.

If you would like us to elaborate on any aspects of this report, or to address any further issues, we would be pleased to do so.

W M Wilson

W M Wilson QC
31 August 2000

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[23] page 38.
[24] page 47.
[25] page 48.
[26] page 49.
[27] page 50.
[28] page 5.

FIRST SCHEDULE

TRANZ RAIL OCCUPATIONAL SAFETY AND HEALTH INQUIRY

TERMS OF REFERENCE

PREAMBLE

This inquiry is a Ministerial Inquiry which is convened by the Minister of Labour, in consultation with the Minister of Transport.

It is prompted by a series of fatal accident to employees of Tranz Rail Limited or its subsidiaries ("Tranz Rail").

It seeks to establish whether there are any systemic factors that contribute to that situation, whether those factors arise out of the nature or content of the safety regulatory regime governing Tranz Rail's activities, out of the systems in place under that regime, or out of a failure to effectively implement the required systems.

This inquiry will not seek to establish the particular cause of any specific incident or accident, recognising that such incidents or accidents are properly the subject of separate investigation by the appropriate authorities. For the avoidance of doubt, if this inquiry obtains evidence or information that should be placed before the appropriate authorities with a view to consideration being given either to the prosecution of any person or to the taking of any enforcement action against any person, that evidence or information shall not be included in the report to the Ministers of Labour and Transport, but should be placed before the appropriate authorities.

SCOPE

Except to the extent otherwise specified in Term of Reference (5) below, the inquiry will be concerned only with occupational safety and health issues in work –

(a) associated with the operation of a **rail service** governed by the Transport Services Licensing Act 1989; and

(b) associated with any activities related to the conduct of a **rail service** (such as the operation of workshops, maintenance of vehicles, loading and unloading, work on or near rail tracks etc) governed directly by the Health and Safety in Employment Act 1992.

INTERPRETATION

These Terms of Reference should be interpreted in light of the statement of Scope.

"Relevant Tranz Rail employees and contractors" means employees and contractors who do work of the type specified in the statement of Scope.

"Rail service" has the meaning given it by section 2(1) of the Transport Services Licensing Act 1989.

TERMS OF REFERENCE

The Inquiry will:

1) (a) Identify and consider the nature, scope and content of the legislative regime governing occupational safety and health issues for **relevant Tranz Rail employees and contractors**.

(b) Identify any factors affecting the ability of relevant agencies to effectively and consistently facilitate and enforce an appropriate level of occupational safety and health.

2) (a) Identify and consider the nature, scope, content and integrity of the Approved Safety System under the Transport Services Licensing Act 1989 that governs, inter alia, occupational safety and health matters for some **relevant Tranz Rail employees and contractors**.

(b) Consider the effectiveness of the system for auditing the Approved Safety System and Tranz Rail's compliance with it.

3) Identify and consider the manner in which and the extent to which Tranz Rail has implemented that Approved Safety System in practice and its means of ensuring ongoing compliance with the requirements of the system.

4) Identify and consider actual situations and practices within Tranz Rail which are relevant to the operation of a safe and healthy place of work, whether within the scope of the Approved Safety System itself or in other rail-related activities.

5) Identify and consider any culture or cultures (i.e., influences or attitudes which affect practices and behaviour) within Tranz Rail and its employees and contractors that may be relevant to the operation of a safe and healthy place of work. For the purposes of this Term of Reference (5), it may be relevant to consider such cultures within areas of Tranz Rail's activities other than those related to the **rail service**.

6) Consider whether the Transport Services Licensing Act 1989, and in particular section 6H of that Act, achieves the same objective as the Health and Safety in Employment Act of providing for the prevention of harm to employees at work.

7) Identify any issues or deficiencies, relevant to the operation of a safe and healthy place of work, whether in the legislative regime itself, the Approved Safety System, or Tranz Rail's or its employee's or its contractor's cultures and operational practices.

8) Make recommendations for any necessary or desirable changes in:

(a) the legislative regime (including any changes to the way in which different pieces of legislation and agencies interact with each other); and

(b) the Approved Safety System currently in place in respect of Tranz Rail; and

(c) the means of auditing compliance with the Approved Safety System; and

(d) the way in which Tranz Rail meets or attempts to meet its obligations under relevant occupational safety and health legislation; and

(e) the culture, practices and procedures of Tranz Rail, its employees and contractors as they relate to relevant occupational safety and health matters.

9) Make any other recommendations that may assist to secure for **relevant Tranz Rail employees and contractors** a safer and more healthy workplace.

MODE OF INQUIRY

The inquiry will proceed by way of an investigation and may be informed in such manner as the Inquiry thinks fit, including holding some formal hearings if necessary. Whether or not any hearing is held, the investigation will be conducted in a fair manner and in accordance with the principles of natural justice.

The Inquiry may make such inquiries and obtain such reports as it considers necessary, but is not bound by any rules of evidence or by any particular procedure. The Inquiry may appoint expert assessors to assist it with particular aspects of its Terms of Reference.

The Inquiry may talk to and hear from such persons and organisations as it sees fit including (but not limited to) Tranz Rail, relevant government agencies, Tranz Rail employees and their representatives.

TIMETABLE

The Inquiry will report to the Ministers of Labour and Transport by 31 August 2000.

SECOND SCHEDULE

WRITTEN AND ORAL SUBMISSIONS RECEIVED BY THE INQUIRY

Written submissions:

Sub No	Received From
-001	Terry Bonner, Hamilton
-002	Kerry Wood, Sustainable Transport Consultant, Wellington
-003	Bruce R Dow, Oamaru
-004	Euan McQueen, Wellington
-005	Rex Rewcastle, Auckland
-006	Land Transport Safety Authority
-007	Philip Armitage and Associates
-008	Telarc Limited
-009	Auckland Regional Council
-010	Rail and Maritime Transport Union
-011	Tranz Rail Limited
-012	Michael Williams, National Secretary – Seafarers Union
-013	Alan Windsor, National Councillor – Seafarers Union
-014	Findlay McIntosh, National Councillor – Seafarers Union
-015	David Share, NZ Seafarers Union
-016	Ministry of Transport
-017	Selwyn Chambers, Registered Engineer
-018	P J Johnson, Wellington
-019	Occupational Safety and Health Services, Department of Labour
-020	Dianne Morgan, Fielding
-021	Neha Family

Submissions in reply received from:

Department of Labour

Land Transport Safety Authority

National Federation of Rail Societies

Rail and Maritime Transport Union

Telarc Limited

Ministry of Transport

Tranz Rail Limited

Oral submissions made by the following organisations and individuals:

Rail and Maritime Transport Union

Tranz Rail Limited

Ministry of Transport

Land Transport Safety Authority

Occupational Safety and Health Services (Department of Labour)

Telarc Limited

National Federation of Rail Societies

P J Johnson, railway worker, Wellington

Selwyn Chambers, Auckland

Dave Morgan on behalf of Michael Williams, Seafarers Union

Alan Windsor, Seafarers Union

Findlay McIntosh, Seafarers Union

David Share, Seafarers Union

Individuals who spoke in association with the Rail and Maritime Transport Union:

Bruce Harding

Colin Kemp

Robin Simmons

Ioasa Iuni

Steve Brown

Steve Wilson

Allen Lehmstedt

Mani Raumati

Peter Harris

Colin Freeman

Chris Van Der Colk

Buzz Terry

Pat Ritchie

Graeme Ealam

Rachel Tucker

Ivan Riardon

Murray Blair

Warwick Armstrong

Lynley Mulrine

Peter Kelk

Bernie Snook

Family Members – Oral Submissions:

Trish Higginson and her family

Faye and Pat Bell

Judy Faithful and her family

Heather Mein and her family

Donna Neha and her whanau

Marge Forrester

THIRD SCHEDULE

Shunt Safety Improvement Plan

7. Defensive Shunting	• Not enough respect for moving vehicles • Defensive shunting Courses • Establish "Dirty Half Dozen" rule • "Zero" Tolerance Regime.	Paul Ashton Phil O'Connell Shunt Managers		End August 00 End August 00 End July 00
8. Establish Shunt Liaison groups	• Establish National "Shunting" Group • Establish local site groups consisting of shunting staff to monitor yard conditions, practices, etc. • Establish monthly liaison meetings between Service Delivery and Infrastructure and Mechanical relating to yard/siding/site conditions, radio/communications to establish priorities, completion times, etc.	Lloyd Major Shunt Managers	In Progress	Mid August 00 Mid August 00
9. Define work/rest periods	• Meal break – consultation/negotiation – review paid breaks • Shift hand-overs – reinforce briefings	Regional Managers		Immediate
10. Shunt re-engineering	• Review activity for Makeup/break-up and Main terminals or Siding shunts • Investigate Stopping riding at the head end of propelling moves • Conduct Risk Assessments for all shunting activities • Need to simulate activity using actual data: • Investigate 5 wagon packs • Containerisation • Review options for more intermodal transfers	Ken Pearson Dick Heslop Tim Carr		Early August 00

Tranz Rail
Service Delivery

THIRD SCHEDULE

Shunt Safety Improvement Plan

Element	Action	By	Status	Date
1. No boarding or alighting moving rail vehicles	• E Mail tonight to Regional Managers or Terminal Managers • Bulletin tomorrow. • Risk assessment • Information, education, compliance, enforcement (discipline)....."	Dick Heslop Regional Managers	Completed Completed On-going	
2. Rolling stand-down-staff briefings on safety issues	• Workshops to review current safety issues • Risk review of current tasks	Lloyd, Regional Managers	On-going	
3. Shunt managers appointed – Middleton, Dunedin, Wellington, Palmerston North, Mt. Maunganui, Kawerau	• Advertise, select and appoint.	Regional Managers	Selections Completed	
4. Establish Consultative Program	• National Issues • Local Issues • Staff issues	Paul Ashton Lloyd Major		End August 00
5. Rules, Codes, Compliance	• Review rules and codes • Review Handbook • Establish Consistency in documentation and procedures • Review sessions to determine correct observation, compliance • Educate, re-train, etc	Shunt Managers Phil O'Connell		After Item 3
6. Establish/Review Training	• Unit Standard/Compliance acceptance • RCO to LE up-skilling • Team Leader skills • Refresher Training • Self Assessment • Shunt Site Assessment	Paul Ashton		End August 00

THIRD SCHEDULE

Shunt Safety Improvement Plan

11. Communication	• Establish 2 or 3 alternative systems • Investigate "hands-free" • Develop suitable solutions	Ian Godfrey	Trial Sets Purchased	End June 00
12. Should we accelerate the demise of 4 wheelers, or lock them into unit consists	• Review loading restrictions • Assess costs (excluding forestry) • Review special train requirements • Establish true Mechanical costs	Phil O'Connell Scott Murray Dave Watson Carol Gillions		End August 00
13. Review Footsteps	• Questionnaire to ALL shunting staff to establish 1 to 10 ratings for all types of wagons. • Establish lists of wagon types vs. footstep type • Develop a plan for change • Prepare and action H58	Dick Heslop Harley Sutton Dick/Harley Dick/Lloyd	Intranet Site to remain open until 05 August 00	Mid August 00
14. Investigate Shunting with Air	• Define operations @ Palmerston North and Napier • Eliminate "bleed-off" • Brakes enables at all times?	Randall Prestidge Lindsay Grant	Shunting on air commenced in many sites	End August 00
15. Investigate Handbrake application	• Undertake a survey to measure handbrake design effectiveness • Undertake a fleet audit of handbrake operation and field effectiveness.	Mike McKeon Harley Sutton		End July 00 End July 00

THIRD SCHEDULE

Shunt Safety Improvement Plan

	• Review traffic patterns to encourage those requiring less shunting • Pilot Auckland, Palmerston North and Middleton			

THIRD SCHEDULE

Shunt Safety Improvement Plan

24. Prepare Age profile for staff involved in shunting and Terminals	• Prepare profile/demographic report	Peter Richardson/Dick Heslop	Completed	17 June 00
25. Obtain Feedback from other Railroads	• Prepare report on observations from last trip	Greg Hight plus members of Single Person Remote team.	Completed	Mid July 00
26. Investigate other Railroads	• Interface with overseas railroads	Lloyd Major		Early August 00

THIRD SCHEDULE

Shunt Safety Improvement Plan

16. Establish Fitness for duty	• Establish Pre-entry standards • Health and mental capability standards and tests • Establish job specific risk management regime • Establish Health Monitoring • More resolute attempts to reduce staff with medical unsuitability • Establish Exit policy	David Waite Phillipa Hitchcock	Draft Document prepared	End June 00
17. Investigate Panic button for all yard staff to activate train brakes	• investigate technology • risk assessment	Mechanical Lindsay Grant		End July 00
18. Investigate Event Recording/Vigilance	• Establish requirements for installation in shunt locos	Mechanical		Mid July 00
19. Investigate Security/Video surveillance of yards	• for security, piloting, site control, analysis and safety • trial before implementing pilot • conduct risk assessment • Review Yard fencing requirements & standards	Ian Godfrey John Sargent Dick Heslop	Quotations received from 3 companies. Proposals under review	End July 00
20. Review and implement infrastructure changes as appropriate	• Ballast/fines level (Greymouth trial) • Powered points • Remote controlled points • Yard respacing and redesign	Peter Morton/Dave Shields Allan Neilson Ted Calvert		End July 00
21. Video cameras on mainline locomotives	• Progress project • Conduct risk assessment	Bernie Jensen		End August 00
22. No riding four wheelers	• Risk assessment	Dick Heslop		After Item 10
23. No riding – all vehicles (except for purpose-built refuses)	• Review Overseas practice • Examine alternatives • Complete Risk Assessment	Lloyd Major Dick Heslop		Early August 00