

From the Chair

One of the goals of the RTSA is to conduct study tours to places of interest so that as many members as possible can experience a wide range of rail and related activities.

The Victorian Chapter has just completed a study tour of New Zealand and I was privileged to have been able to join with members of the chapter and others on a visit to Wellington and Christchurch to inspect a range of facilities involved with rail and other forms of transport.

David Lewis, a member of the Victorian Chapter, who now lives in Wellington, organised a most interesting and varied range of activities that kept us busy for six days including a weekend.

The tour included inspections in Wellington of the Alstom Hutt Workshops where TranzRail rollingstock maintenance is carried out, and discussions with TranzRail Civil Engineers and the issues dealing with trackwork, bridges and effects of earthquakes. We were fortunate to have an explanation of the operation of the 19th century cable car and museum by the retired engineer of the railway and an inspection of the operation of the Interislander Ferry and the loading of trains and vehicles.

Following our transfer on the Ferry to Picton and Tranz Coastal Scenic train ride, we enjoyed the delights of Christchurch with its new computer controlled bus operations, Connectionz, where buses are tracked by satellite and allocated a bay in the centralised departure lounge. As a result of this initiative, bus usage has increased 22% in this year alone.

Following a meeting with the regional engineer who advised us of the history and re-establishment of the tourist tram in the centre of Christchurch, we inspected the Air New Zealand maintenance hanger and engine shop. We also visited Tait Electronics, manufacturers of mobile radios used by service organisations and private companies throughout the world.

I wish to especially thank David for organising and arranging the visits and to the Victoria Chapter for initiating the study tour. A full report will appear in the next Newsletter

The Auslink Green Paper has generated much interest in the rail industry with over 600 submissions being received by the due date. Following review, a White paper will be released that will outline the Federal Government's blueprint for transport over the next 20 years. RTSA has responded with a detailed submission that calls for a number of track upgrades and a request that consideration be given to the provision of funding by the Federal Government to ease over crowding in urban areas. The Government Relations Committee has also provided submissions to other bodies including the National Transport Commission.

The CORE 2004 Committee, convened by SA Chapter Chair, Rob Schweiger, is busy organising the next conference, which will be held in Darwin between June 20th - 23rd 2004. A full programme is being arranged and the Call for Papers has been posted to all members. Please note the dates in your diary and consider presenting a paper to the theme, "New Horizons for Rail" which is most appropriate considering the completion of the railway to Darwin by the end of this year.

AusRAIL Plus 2003 will be held in Sydney this year from 16-19 November and RTSA will be presenting a number of papers on Day 2 in conjunction with the ARA, RTAA and IRSE. We will also have an exhibition stand outlining the role of RTSA.

I look forward to meeting with you at local chapter meetings and other functions.

John Watsford
RTSA National Chair



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POINT OF VIEW

by Max Michell

Drought conditions have wreaked havoc upon the rural sector and various regional centres that depend on rural prosperity for their wellbeing. Downstream effects are found further afield and one of these is the rail industry. The grain industry is the major income source for some rail operators, and they are particularly hard hit by the current downturn. ATN Access has all but put itself into hibernation, while Freight Australia is reducing staff numbers and storing locomotives and wagons. At this stage ARG in South Australia has reasonably large carryover from 2001 to see them through, while ARG in West Australia, Pacific National and QR all have substantial other traffics which tend to counterbalance the worst of the rural downturn. The financial pressure that the traffic downturn has brought to most rail operators is starting to have an impact on the structure of the industry, even in areas that are not directly connected to rural activity.

Unlike their road counterparts, rail operators have to have insurance cover for predetermined amounts regardless of their size or the extent of their operations. The insurance industry is quite non-discriminatory in that same context so premiums are determined with scant regard for the consequences. In many ways this unimaginative approach is contrary to the insurance industries interests, since it will in the long run reduce the number of operators, and hence premium income, without there being any real reduction of risk.

Still in the 'broad sword' world of insurance cover, the problem is that the smaller operators are now finding that their premiums are becoming unaffordable to say the least. The first notable victim has been the relatively long established Great Northern Rail in Melbourne, who found that the demands from both the insurance industry and the surrounding track owner were more than they were able to bear. There may well be more casualties as time goes on, while trucks continue to pay vehicle based premiums and continue to operate. It is not in the rail industries interest for this insurance nonsense to be allowed to drive the structure of the industry, nor to provide a tool that allows parts of the industry to engage in what amounts to a form of predation. Rail does not need dysfunctional behaviour from within its ranks when the major competition is not on rail at all. This then is the first, albeit somewhat indirect, consequence of the drought.

The second is likely to be of a more fundamental nature. When track access became part of the political agenda some 10 years ago, a number of different models were formulated. In one corner are ARTC and RIC who are stand alone track owners without any pretence to be an operator. In the opposite corner there is the privatized ARG (South Australia) and ATN (Tasmania) model where the operator is the track owner with little if any obligation to grant third party access to their tracks. Somewhere in the middle is the Queensland (government), and Western Australian (privatized) model where the one company has structured to separate the above and below rail operations, allied to which is the Victorian model where the vertically integrated privatized freight railway has an access regime but no organizational separation.

Inevitably the 'weaker' of these arrangements will eventually fall by the wayside, and it would appear that the drought may be providing some impetus to that process. Stories abound that Freight Australia wants to 'sell' its track lease back to the government, while at the same time cash flow constraints are resulting in accumulating backlog of maintenance. In South Australia it is understood that some sidings adjacent to ARTC main lines are now in the hands of the same organization, while on a far larger scale the ARTC/RIC issue must be close to a resolution.

It is becoming apparent that the private sector cannot realistically support the thinly trafficked branch lines in this country. Downturns in business, such as brought on by drought, only serve to highlight the difficulty of adequately funding rail track, particularly where the alternative (roads) are funded on a quite different basis.

It is all very confusing at this stage, but in the interest of making a brave prediction to enliven the debate I would suggest that an ARTC or similar entity will be the owner, lessee or manager of the majority of erstwhile public rail track in this country within five to ten years.

Which brings the AusLink concept into the picture. If that policy is to have any meaning it will need to come up with a planning and funding arrangement that is equitable (in a national context) and is able to be applied across road and rail equally. Roads are virtually all in public ownership, but rail track is now distributed between a rather disparate group of public and private entities with widely varied structural arrangements. It is obvious that the structural confusion in rail will not serve the interests of the rail industry well in the brave new AusLink world. So with financial pressures coming to bear on the current owners of marginal track, and a national policy that might point to a solution, perhaps the 'brave prediction' is not so much bravado as simply a forward reading of events already under way.

Auslink

With good input from members, the RTSA made a 21-page submission in response to the Federal Green Paper on AusLink. This submission may be found at www.rtsa.com.au (go to publications and then submissions). Engineers Australia (IE Aust) also made a detailed submission which notes, inter alia, the IE Aust Sustainable Transport report,

"(a) that more spending on transport infrastructure is needed and (b) pricing reform is a key step towards sustainable transport."

RTSA has had good support from many groups, including IE Aust, for its view that AusLink will not work well unless it is adequately funded. Our submission called **AusLink Plus** suggested improved road pricing plus investment in track straightening on NSW interstate mainlines regional rail (both wheat and passengers) and urban public transport. Also noted was the need for skills training and research. In summary:

The AusLink Green Paper proposals are a good start but more is needed. The high growth rate of interstate road freight needs to be balanced with a move - sooner better than later - to mass-distance pricing, and there is now an urgent need to upgrade the mainline rail track linking Australia's three largest cities. In addition, any national integrated transport plan needs to assist Australia's major cities to overcome excessive 'automobile dependence'.

An outline of **AusLink Plus** with improved road pricing and three infrastructure items was sent to all State and Territory Ministers. The response was positive, with Queensland Transport Minister Steve Bredhauer noting:

"Your society's views and your five areas of concern were considered fully in the preparation of the Queensland government response to the proposal. In particular, I note

that your society has again provided valuable insight into the transport issues confronting Australia. ... The minister agrees with your society's view that the Auslink package in its current form has a very limited scope. Auslink has ignored urban public transport issues and it comes without any federal commitment to provide additional funds for transport infrastructure and services. The failure of the Auslink proposal to address both freight and people issues equally and also the issue of logistics in urban centres, are serious limitations in the Auslink proposal.

I am hopeful that the Auslink White Paper will address these deficiencies, thereby alleviating the need for a further review of urban public transport."

AusLink does not start until at least 2004. Accordingly, RTSA made a 2003 pre-budget Treasury submission which may be found on the RTSA website. Our submission requested an increase in the amount of 'firm' Commonwealth funding for rail from \$110 million to \$450 million over the next three years. This would be used to accelerate implementation of ARTC Track Audit works, plus the "Hoare Deviation" (between Bowning and near Cootamundra and rated by the Track Audit as an S2 project). Members will recall that Prime Minister Paul Keating in February 1992 approved \$450 million of rail capital works over three years.

A new Bowning to Cootamundra deviation is featured in an updated submission to Government: Newcastle-Sydney-Canberra-Melbourne Fast Freight and Passenger Train Options. See www.rtsa.com.au for the new submission.

National Transport Commission

The RTSA has been granted stakeholder status by the National Road Transport Commission (NRTC) in the lead up to the formation of a National Transport Commission (NTC) in early 2004. The RTSA has made brief submission in support of the NTC, with comment on each of the following NRTC 'ideal' goals.

- **No barriers** to efficient and effective rail operation across jurisdictions;
- **No barriers** to entry by new operators;
- **No barriers** to track access by all rail operators;
- **No barriers** to innovation;
- **No barriers** to choice of best/ preferred mode; and
- **No barriers** to inter-modal transfer.

We have also asked, inter alia, that work on the third determination of road user charges be brought forward to 2003 and an inquiry be undertaken into external environmental costs of road vehicle usage. Pending formation of the NTC in 2004, RTSA requested consideration of appointment a commissioner with a special knowledge of rail freight to the present NRTC.

Rail in the Next Decade: where to and how?

Following CORE 2000 in Adelaide, the RTSA National Council commissioned a Rail Forward Vision Task Force chaired by Mr Ted Butcher, AM FCIT FIEAust CP Eng. Their report **Rail in the Next Decade: where to and how?** compiled with the assistance of Mr Max Michell and others was released during CORE 2002 at Wollongong.

What will the rail industry be like in the next decade? If you plan to be with the rail industry until 2010, or even over the next few years, then this report is worth reading. As Mr Vince O'Rourke said in the Foreword to the book 'The Line Ahead' commissioned by QR in 1996 "...think about all the possible futures and consider which of them are the most probable. Consider what are the forces and strategies that will bring them into being. Then from the probable, select the preferable (...as) the line ahead."

The full report can be found at www.rtsa.com.au, and the summary follows. Feedback on the report is welcomed by the Editor, and will be published in the next newsletter.

Summary

The last 20 years have been a period of great change for rail. The main changes have been prompted by national competition policy and a common desire across most jurisdictions to be rid of continuing financial burdens. At the same time, rail has made significant technical and structural advances on its own account. The changes to date have, however, been insufficient to boost the industry's profile or give rail a positive image at both the community and the political levels. Rail is no longer seen as a vote winner, so it receives little attention from government when it comes to public policy and investment. And, as an industry, we have lost sight of our own ability to control and direct much of what is needed for a healthy, vigorous industry.

Rail's development during the next 10 years is very dependent on the attitude the industry adopts. At worst, we would continue to lose market share, as some Bureau of Transport and Regional Economics forecasts predict. Rail would then find itself increasingly irrelevant.

A more likely situation is 'business as usual'- an extension of the past two decades. But this situation has not provided rail with any great wins in the recent past and is unlikely to do so in the future. The outcome for rail under this situation is as much determined by external events as by the industry itself. The industry will lose control of its destiny.

We need to raise our sights - to a long-term, self-directed future with significant increases in rail's share of the land freight and passenger transport tasks. In this way rail will gain increasing community and political support.

Our industry is not alone in having to come to terms with the future. Governments, organisations and individuals worldwide all have to grapple with their prospects. What is needed is for rail to be better than most at adapting; that is, we need to be more flexible, visionary and innovative in how we deal with the future. Along with upgraded infrastructure, **'leadership and vision'** are essential if rail is to achieve a long-term, secure position in Australia's land transport activity. This is our vision.

Rail must encourage strong leadership within its own ranks, visionaries and innovators who can draw rail forward faster and more effectively. The vital ingredients are leaders—and younger people who are persuaded to join the industry because of its exciting future and are then trained and nurtured. Career-path planning, succession planning, and training and development are among the most important ingredients of the vision for the future of rail.

With these ingredients rail will be able to develop the 'can do' attitude that will drive it forward to an increasingly relevant, productive future. This has to be good for the industry and the nation.

Philip Laird, Government Relations Committee

Rail CRC



In this issue, we profile two projects currently being undertaken under the auspices of the Rail CRC (Cooperative Research Centre for Railway Engineering and Technologies).

Corrugations under the Microscope

The irregular wear patterns (corrugations) on railway track induce severe vibrations in trains and the cost of removing them through regrounding can be measured in the hundreds of millions of dollars.

Corrugations may be initiated at a micro level via welds, marks or cracks due to rolling contact fatigue. But they can grow to cause excessive vibrations and dynamic loads between wheel and rail, to the extent that train speeds are restricted, noise problems arise and track components are degraded.

So far, despite more than 100 years of effort, researchers have not yet gained enough understanding of the complicated forces at work in order to find better solutions.

However, a Rail CRC project team based at the University of Queensland has embarked on an ambitious project that could enable railways to predict and mitigate corrugation (via smart support/control systems) and even to prevent it through the design of new lines.

The key aims are to:

- develop integrated, analytical and numerical models for wear type rail corrugation;
- develop a rail corrugation test rig for model verification;
- obtain measurements of rail corrugation on track in several sites in Australia to obtain better understanding of the phenomenon and for model development and tuning.
- determine the fundamental mechanism and critical parameters associated with the occurrence of rolling contact instability; and
- develop a rail corrugation estimator system that may be used to monitor and/or predict the first appearance and growth of rail corrugation based upon critical parameters such as traffic, tonnage, speeds and track radius etc.

Project leader Dr Paul Meehan said a key to the Rail CRC project was an integrated approach using various types of models and field tests for insight and validation.

Professor Meehan said the project researchers had begun computer modelling and field measurements and had embarked on collaboration with Italy's Tecnogamma company with a view to using its automated laser systems to validate site measurements.

The project team will design and develop its own corrugation test rig to validate the rail corrugation estimator system and provide an additional perspective on the forces at work.

Outcomes will include completion of a prototype, rail corrugation estimator system and identification of corrugation suppression techniques.

Other project team members include, Dr Bill Daniel and Tom Campsey (University of Queensland), John Powell (QR), Karl Ikaunieks (RIC) and Karen Bendall (ARTC).

Dr Paul Meehan can be contacted on **07 3365 4320** or email: **Meehan@mech.uq.edu.au**

Wheel/Rail Noise Pattern Identification

Rail CRC researchers have been recording (and distinguishing) the noises of rolling, flanging, impacts and wheel squeal from a variety of railway services, including intercity, suburban and high-speed routes. They have also been collecting details of track conditions where various sound levels were recorded.

By correlating noise data from a moving train with noisy track features, the idea is to fine-tune the relationship between noise patterns and track conditions.

On-board noise-monitoring gear linked to GPS-type location gear can therefore pinpoint abnormal track locations for repair. The system could also be used to indicate the success (or otherwise) of track and/or wheel design improvements. Priority is being given to the indicators of flanging, since this factor is the most significant contributor to wear.

Meanwhile, the researchers are continuing to check whether on-board monitoring of indicators other than noise is a feasible way to determine the severity of wheel and rail wear at certain locations.

The project leader is Dr Richard Dwight from the University of Wollongong. Dr Dwight said the issues to be solved include the position of the monitoring gear: the locomotive cabin seems logical but contributes extraneous noise. He said another challenge is to indicate whether the system is operating at normal track speeds to ensure consistent readings.

"Researchers are even aiming to integrate the noise and non-noise monitoring systems for extra reliability of results," he said.

The project research associate is Dr Jiandong Jiang, who has spent the past decade working on the areas of machinery condition monitoring and maintenance, intelligent manufacturing and smart machine technology, and intelligent vehicles.

He has extensive experience in development of measurement and data acquisition systems, mathematical modelling for characterising complex surface profiles and surface wear processes. Dr Jiang also has an extensive background in 1-D signal processing and 2-D image processing techniques. He has examined the capability of the rapid development of algorithms and prototype systems using Matlab and physical implementation using c/c++.

Previous experience also includes smart machine technology with the integration of sensors, data acquisition and measurement, signal analysis and feature extraction, intelligent response strategy and optimal control.

Dr Richard Dwight **02 4221 3183** or email **radwight@uow.edu.au**



Future Rail Standardisation Under Threat in Victoria

The Railway Technical Society of Australasia (RTSA) has expressed dismay at the apparent decision of the Victorian Government not to include gauge convertible sleepers as part of the specification for the Regional Fast Train project. This will prejudice any future gauge standardisation of these lines and isolate them from the rest of the Victorian and national rail networks.

RTSA spokesperson, Dr Philip Laird said that the expense of any future gauge standardisation of those broad gauge rail lines making up the Regional Fast Train project would either cost taxpayers dearly or be prohibitive.

Dr Laird said, "The Regional Fast Train project will see the old timber sleepers replaced with modern concrete sleepers to allow for high speed passenger trains. However, unlike timber sleepers, concrete sleepers cannot be used when converting a railway line from broad to standard gauge, unless they have been specially cast beforehand."

"At the same time as implementing the Regional Fast Train project, the Bracks' Government has embarked on a project to convert many regional freight rail lines from broad to standard gauge. This latter project does not encompass the Regional Fast Train routes. It is therefore more than likely that in the future there will also be a need to see these Regional Fast Train routes converted from broad to standard gauge to allow for integration with the rest of Australia's rail network," said Dr Laird.

South Australia has already taken the step of ensuring that all major re-sleeper projects on the Adelaide broad gauge suburban network specify the use of gauge convertible sleepers to allow for any future gauge standardisation.

The 'break of gauge' problem has plagued the development of Australian railways for over a century. However, during the 1990s, Victoria made good progress by converting the Melbourne to Adelaide interstate line from broad gauge to standard, along with several regional lines in Western Victoria carrying grain to Portland and Geelong.

Dr Laird said, "The concept of the Regional Fast Train project is excellent and without parallel in Australia. Unfortunately though, for the sake of less than one per cent (1%) of the total project cost, it has been decided to use plain concrete sleepers rather than gauge convertible concrete sleepers. This will prejudice any future gauge standardisation of these lines and isolate them from the rest of the Victorian and national rail networks."

"It is vital that the Victorian Government take immediate steps to ensure that the Regional Fast Train and Gauge

Standardisation projects are better coordinated, and that gauge convertible sleepers are specified for the Regional Fast Train project before it is too late."

The Society has previously written to the Victorian Transport Minister on this issue, but has yet to receive a formal response.

In an article in *The Age* newspaper, a spokesman for Transport Minister Peter Batchelor is quoted as saying that the lines involved in the regional fast rail were not priorities for standardisation. This was because they were not connected to the interstate and national rail network, except for Geelong, which already has a standard gauge link.

"The lines for the regional fast rail passenger services will remain broad gauge because there are no plans to change the metropolitan gauge, the costs of which would be enormous," the spokesman said.

"There is limited standard-gauge capacity in the metropolitan rail network and converting the regional fast rail lines to standard gauge would result in significant delay and congestion problems for these services."

News Snippets

Federal funds enable NCTD to advance light-rail project

Don't get too excited. No, this isn't an Australian story – rather from that bastion of free enterprise the USA where the North County Transit District in California recently received US\$152 million in federal funding to enable the agency to proceed with a light-rail project connecting Escondido and Oceanside, Calif. Planned for more than 15 years, the project is expected to start later this year, with completion scheduled in 2005. The 22-mile line is expected to carry 12,000 passengers a day in its first full year of operation. The US\$350 million total project is designed to relieve congestion on local highways, improve air quality and improve mobility for area residents.

Source: www.progressiverailroading.com

Norfolk Southern Efforts Pay Off

In 2002, Norfolk Southern Corp. attracted 93 companies and provided support that enabled 33 plants to expand along its lines, adding 91,000 wagon loads to the railroad's traffic ledger. "New and expanding businesses on the network increased 16 percent over 2001, despite challenging economic conditions for our customers and communities," said Larry Collingwood, NS assistant vice president of industrial development, in a prepared statement. General Motors Corp. and Mitsubishi expanded auto-assembly plants in Moraine, Ohio, and Normal, Ill., respectively, and

Southeast Toyota Distributors opened an auto-processing and distribution facility in Jacksonville, Fla. NS plans to begin serving other new car plants later this year and in 2004, including facilities for Toyota, Mercedes-Benz and Honda. During the past 10 years, 1,143 companies have located or expanded plants on NS lines, investing \$24.1 billion in facilities and creating more than 58,000 jobs.

Source: www.progressiverailroading.com

New CEO for Australian Railroad Group

The Board of the Australian Railroad Group (ARG) announced on Wednesday, 26 February 2003 the appointment of Mike Mohan to the position of Chief Executive Officer. Mr Mohan has spent much of his 34 year railroad career with Southern Pacific Transport Company where he was President, Chief Operating Officer and a member of the Board. Most recently, Mr Mohan worked as a consultant to Transportacion Ferroviana Mexicana, Mexico's largest rail franchise, focusing on various international operating issues. Mr Mohan will begin his duties at ARG's headquarters in Perth, in mid - March 2003.

Source: Australasian Railway Association

Farmers Request for Branch Lines to be Upgraded

The NSW Farmers' Association has called for NSW government funds to be redistributed to upgrade grain branch lines such as Coonamble, Tottenham and Walgett. All studies point to reduced grain transport costs and the prevention of rural road destruction. The effects on roads of rail closures is a big issue for local government.

Supporters of road transport suggest it would better to close branch lines and focus rail investment on main lines. That 66 per cent of all NSW grain starts its journey on a branch line appears to have been overlooked. But farmers feel that closing branch lines will simply externalise grain transport costs to publicly funded roads. Upgrading and maintenance costs quoted by road lobbyists also appear to be over inflated and fail to recognise 'fit-for-purpose' upgrading.

Source: Australasian Railway Association and others



Chapter Reports

Victoria & Tasmania

The meeting held on Wednesday 11 December in the Auditorium at IE Aust Victoria HQ was well attended and enjoyed by all. On this occasion, our last for 2002, Alan Burns, Business Development Manager for Bombardier Transportation presented details of rolling stock projects in which Bombardier is involved, particularly the building 160 km/h DMU stock for Victoria. Refreshments were provided by Bombardier and our thanks go to them for this consideration.

The January meeting was addressed by our 2002 Student Award winner, James Chuang. James made a well prepared presentation about his final year project upon which his award was decided. The presentation included some of James' own high quality photography. The project covered the condition monitoring of locomotive components, particularly main generator bearings. James explained the methods used and equipment to detect and identify abnormal vibration in the generator housing, and how the readings taken may be used to increase reliability and maintenance efficiency. James is keen to start his professional career in the railway industry - we wish him well.

The Study Tour on Railway Engineering was undertaken between February 19 to 26. This five day tour to both islands of New Zealand. A full report will be provided for the June Newsletter.

Further activities planned for 2003 include:

Wednesday 12 March at 1800hrs

Technical visit to the Institute of Railway Technology at Monash University (Building 72, Auditorium E7. Presentation will cover current trends in vehicle and track maintenance strategies, and will include a series of case studies on Railway systems in Australia and S-E Asia. There will also be a tour of the Institute's testing facility.

Friday 23 May at 1830hrs (for 1900hrs)

The Annual Dinner will again be held at the "Savoy Park Plaza International Hotel", 630 Little Collins Street, Melbourne. Mr. Hubert Guyot, Chief Executive of Yarra Trams is the invited guest speaker. More details will be available soon.

Other activities, including a site visit are being developed for June, July and August. Details will be circulated by E-mail and post a little closer to the events.

David Ferris, Chapter Chair

Western Australia

The Western Australian Chapter has commenced the new year with the Annual General Meeting and technical presentation relative to the design of the Dublin Light railway system held on Thursday 6th February

Office bearers for the year ahead will be

Chairman	John Syers
Secretary	Bill Singleton
Committee	Brian Cornish Vivian Rodrigues Keith Jones Norman Tan John Goodall

With the exception of John Goodall the officers remain intact from the previous year. John is an ex Westrail Engineer who served as General Manager, Marketing prior to taking up as a Project Consultant with Inteplan Pty Ltd based in Perth. His input into the management of the Chapter will be welcomed. One of the previous committee members, Ray Littley has chosen not to nominate for the new year. Ray has provided great assistance over the past years and has contributed to the promotion of the Student Award Scheme.

The February presentation was delivered by Mr Lachlan Daniel who has worked extensively throughout the world on railway design projects. Currently he is in Perth with Sinclair Knight & Mertz as part of the design team developing Package A of the Perth to Mandurah rail project. His presentation focussed on the elements associated with the design of the Dublin Light Rail System which had specific problems within the closely built up environment of the routes. The railway has low speed, closely spaced stopping points and tight curvature.

On 20th March the Chapter is arranging a site visit to the construction of the extension north of the Northern Suburbs Railway. A bus will be chartered for the visit which will depart from the Westrail centre mid afternoon. It will join other members at designated points enroute. Inspections of the new rail car depot at Nowergup and track laying between Curumbine and beyond Clarkson will form the main part of the inspection. The tour will be supported by officers from the Perth Urban Rail Development team.

Members are urged to support the meetings conducted by the group and keep aware of the programs by accessing the RTSA website www.rtsa.com.au

John Syers, WA Chapter Chair

New South Wales

The first chapter meeting for the year was the AGM held on 19th February. The following were appointed to the Chapter Committee for the coming 12 months:

Chair:	Bill Laidlaw
Secretary:	Basil Hancock
Treasurer:	John Stapleton
Committee:	Arnold Aranjo John Aitken David Jehan Les Mcnaughton Trevor Moore Chris Venn-Brown John Watsford

Alex Stoney fulfilled the role of Returning Officer, many thanks to Alex for carrying out this function again this year.

The first pleasant duty for the incoming Chair was the presentation of a Thesis Award to Ervin Johnathon; this comprised a Certificate accompanied by a cheque for \$500 for receiving an Honorable Mention in the RTSA Student National Thesis Award.

Geoffrey Sandford completed the evening with a presentation titled 'Proposals for reshaping of Sydney Metro System'. In his presentation Geoff told of some of the history of the current Sydney system and outlined some proposals for what might be done today if we could start over with our experiences from the past. Thanks to Geoff for the presentation and to Noel Reed for videotaping the proceedings.

Howard Lacey, Chief Executive of the SRA of NSW will address the Society on **Monday, 17th March**. We look forward to Mr. Lacey's presentation and encourage members to be at the Haricks Auditorium for refreshments at 17.30 for an on time start at 18.00.

The first Study Tour of Railway Engineering (STORE) will be to the Newcastle region on **Friday 21st March**. This visit will commence with an inspection the Millennium train production at the former SRA Cardiff workshops hosted by EDI Rail who were recently awarded Stage II of the Millennium train project.

Following a short break for lunch, an afternoon inspection will be conducted through United Goninan's Broadmeadow complex where the Western Australian Prospector DMU Railcars are in production along with locomotive rebuilds at various stages and wagon repairs. United Goninan were recently awarded contracts for the Sydney Outer Suburban Cars (OSC) EMU's and the Hunter DMU's.

Please contact **Basil Hancock on (02) 8202 2259** for details and to reserve your place on the mini-bus, numbers are limited to 20.

On **Thursday 10th April** an inspection of the New Generation Driver Simulations at the Petersham Training Centre is scheduled followed on **15th May** by a joint meeting with IRSE on the New Generation Train Control System, Sydenham Box, meeting on the 2nd floor, 477 Pitt St. Sydney, more details to members as arrangements are finalised.

Bill Laidlaw, NSW Chapter Chair

Queensland

As of 25 November 2002 there were 136 members of the Queensland Chapter.

Events

The first technical meeting for 2003 was held on the 26 February. The topic related to a work currently being undertaken within QR in relation to the protection of trains on QR's rail network. The presentation focussed on the risk assessment approach being adopted, in particular the underlying cause-consequence model. (30 Attendees)

Program for 2003

Below is the technical program for 2003 as it is currently planned. Technical Meetings will be held in the Hawken Auditorium, IEAust Queensland Division, on the 4th Wednesday of the month at 18:00, unless otherwise advised.

The Chapter's next AGM will be held on 23 July 2003 at 17:50, in the Hawken Auditorium.

26-Mar-03	SPAD Management – Alex Borodin
29-Apr-03	Site Visit – travel on QR's new Cairns Tilt Train prior to its introduction into service. (Tentative date)
28-May-03	Gauge Standardisation in Victoria – John Hearsch (invited interstate speaker)
25-Jun-03	Rebuild of Coal Business Electric Locomotives – Dave Swanson
23-Jul-03	AGM & Rail Accident Investigations Mark Stallbaum – ATSB
27-Aug-03	Gowrie to Grandchester Corridor Study – Mike Carter
Sept-03	Seminar – Disability Issues with Railways. (Half-day seminar, date to be determined)

22-Oct-03 Gold Coast Light Rail Feasibility Study
– Date and venue to be confirmed
(Possibly joint with Gold Coast Branch)

26-Nov-03 Site Visit – To be determined

George Nikandros
Chairman, Queensland Chapter

South Australia

Forthcoming Technical programme

Date: 3 April 2003
Venue: IEAust Building Bagot Street
North Adelaide
Speaker: Dr. Fred Affleck
Topic: Future Directions for Rail

Date: 1 May 2003
Venue: IEAust Building Bagot Street
North Adelaide
Speaker: Des Smith
Topic: TAR construction

Date: 5 June 2003
Venue: Joint meeting with PWI of SA
Speaker: TBA
Topic: TBA

Development of a full programme is well underway for the remainder of the year. Unless otherwise stated meetings are held at the IEAust Building, Bagot St North Adelaide commencing at 1730hrs.

Rob Schweiger, SA Chapter Chair



CORE2004

The SA Chapter is being kept very busy in the organization of the CORE conference to be held in Darwin from June 20-23, 2004.

The Call for Papers has been made and the closing date for submission of abstracts is 31 March 2003. I encourage you all to think about submitting a paper especially as this event will be well attended by both Australian and overseas delegates.

Darwin is very close to our Asian neighbours and we are expecting a large group of people from SE Asia to attend. It will be an event where we can showcase Australian expertise and ingenuity to the world.

Further details of the conference can be found on our website www.core2004.on.net

Registration details are still some way off, but Exhibition and Sponsorship packages are expected to be finalised within the next couple of months.

We are delighted to be able to announce that Australian Rail Track Corporation has again signed up as a major sponsor.

Book Review

Railway Safety – BLOCK SAFEWORKING

Author: Ian Macfarlane

Publisher: Engineers Australia Pty Ltd

Distributor: EA Books

Price: \$54 ISBN 085825 826 9

Keeping moving trains apart, other than for attaching items of rolling stock, is fundamental to operating a safe railway. Various systems colloquially referred to by the rail industry as “safeworking” have been devised over time, often following accidents due to their inherent deficiencies.

The book covers the principles and systems for keeping moving trains apart and the technology that supported and continues to support them. It covers the full range of safeworking systems in use today by railways in Australia, United Kingdom and North America.

Through the use of accidents, Ian provides insight as to not only the operation of these safeworking systems, but also to their flaws. Understanding why rail accidents happen, goes a long way to explain why the modern safeworking systems in use today came to exist.

Ian’s unique somewhat lanikin style makes this not only an information resource but also an entertaining read.

A must read for the railway engineering professional and those who want to be.

About the author – Ian Macfarlane has had a long association with the rail industry. As a professional engineer he has worked on the Southern Railway in India, the Malayan Railway, the former NSW Railways, and the former British Rail (Western Region). His professional engineering practise has focussed on interdisciplinary and safety aspects. Ian is a member of the RTSA.

G. Nikandros

RTSA Office Bearers

National Chair: John Watsford
Ph: 02 9330 7900 Fax: 02 9330 7902

Deputy Chair: George Erdos
Ph: 08 8218 4000 Fax: 08 8227 0992

Chair - Government Relations Committee: Philip Laird
Ph: 02 4221 3421 Fax: 02 4221 4845

NSW Chapter Chair: Bill Laidlaw
Ph: 02 9330 7900 Fax: 02 9330 7902

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Treasurer: Ravi Ravitharan
Ph: 03 9905 1986 Fax: 03 9905 1972

Queensland Chapter Chair: George Nikandros
Ph: 07 3235 1473 Fax: 07 3235 2747

SA Chapter Chair: Robert Schweiger
Ph: 0413 128 775 email: rschweiger@jhg.com.au

Victoria & Tasmania Chapter Chair: David Ferris
Ph: 03 9620 3600 Fax: 03 9740 7917

WA Chapter Chair: John Syers
Ph/Fax: 08 9387 1946

RTSA Secretariat: Nina Lenz
PO Box E303, Kingston ACT 2604
Ph: 02 6270 6548 Fax: 02 6273 2358

RTSA National Newsletter - Editorial Contact

Mark Carter
GRMS Media,
3 Bruce Street, Broadview, South Australia 5083
Phone: 08 8261 2292 Fax: 08 8261 2219
e-mail: grms@bigpond.com

Deadline for next Newsletter

1 June 2003

Contributions are always welcome.

ARA Charts New Course

Peak rail industry body, The Australasian Railway Association (ARA) is undergoing a radical shake-up. Initial CEO, John Kirk has left the organisation after seven years and also departing at the same time are Research Manager David Hill and Communications Assistant Lisa Harris.

According to the ARA's press release, Kirk's departure comes as the organisation implements some important strategic actions in response to the rapid changes occurring in the industry. ARA President Stephen Bradford said, "To continue the momentum for change, the industry and its peak body, the ARA, will work in partnership with governments and other stakeholders to achieve outcomes for our members and the community."

At the end of February, The ARA Executive decided that as from mid-2003 the ARA's lobbying base would be moved from Melbourne to Canberra. The search is currently under way for a new CEO while in the interim, rail industry consultant Dr Fred Affleck has been engaged as Acting CEO.

CFCL Australia launch New Loco



CFCLA Australia launched its remanufactured 3000hp GL class locomotive at Sydney's Powerhouse Museum last month. The GL class are dual-cab 3000hp units, equipped with a GE 7FDL12 power-plant and six GE752 traction motors. To improve performance and haulage capacity they are being fitted with GE's state-of-the-art "Bright Star" microprocessor control system. With a tractive effort of 347kN at 18.5 km/h, based on 28% adhesion, they will have a haulage capability equal to or better than similar 3000hp units currently in use in Australia.

A fleet of 12 GL class locomotives is being remanufactured by United Goninan and will come on line progressively during 2003.



Members of the RTSA Study Tour group are seen at the Antarctic Centre in Christchurch. All modes of transport, including all - terrain vehicles, were inspected during the tour. A full report will appear in the next Newsletter

Graduate Study For Rail Professionals

In 2002, Queensland University of Technology and Australian Railway Research Institute released the second unit "Railway Management, Operation, and Safety" for graduate study for professionals (engineers, managers, operators, technical personnel) working in the railway industry, who are looking for a broader vision of the industry.

This is a joint venture between QUT and ARRI and is directed at the graduate level in a new railway environmental multi-disciplinary business concept.

Both this and the first unit, "Railway Business and Engineering", were well subscribed with participants from Brazil, Hong Kong, New Zealand and Australia. Both units are planned to be run again in the first half of 2003 and those who successfully complete the units can claim them towards appropriate Graduate Certificate / Diploma / Masters level study. All the study material has been written by widely recognized practicing engineers and managers, who also assist with the operation of the units and assessment of assignments.

Both units (courses) are full-fee paying and available in a self-paced, independent study mode with high quality resources supplied to participants; they are self-contained units with individual assessment.

Contact: Martin Murray m.murray@qut.edu.au OR
Wardina Oghanna arri@powerup.com.au



The Railway Technical Society of Australasia

CORE 2004 - "New Horizons for Rail"

Call for Papers - FINAL NOTIFICATION



The South Australian Chapter of the RTSA has been given the responsibility for organising the Conference on Railway Engineering 2004 (CORE 2004), which will be held at the Carlton Hotel Darwin from June 20 to 23, 2004.

Planning for CORE 2004 is already under way and an outline programme is being prepared. The Call for Papers was issued in January 2003 and is also be available from the CORE 2004 web site

www.core2004.on.net

Prospective authors are advised that time is fast running out and that abstracts should be submitted using the template provided via the web site and should be submitted no later than 31 March 2003.

Enquiries should be directed to the Technical Review Secretariat
techrev@core2004.on.net

RTSA RAILWAY ENGINEERING INDIVIDUAL AWARD FINAL NOTICE

Nominations for the Annual Engineering Individual Award for 2003 close on **17 April 2003**.

All members are urged to consider the submission of the name of anyone who has shown outstanding achievement during a career within the railway industry.

Full details and a nomination form are available from the RTSA website www.rtsa.com.au

Nominations, complete with a detailed citation, should be forwarded to:

Committee Administrator, Railway Technical Society, C/- Institution of Engineers, Australia, 11 National Circuit BARTON ACT 2600. To be received by 17 April 2003.