

NEW SOUTH WALES NEWSLETTER



ENGINEERS
AUSTRALIA

RTSA

Railway Technical Society of Australasia
NSW Chapter
Mail: PO Box 6238, Kingston, ACT, 2604

MARCH 2009

RTSA NSW CHAPTER MEETING

Wednesday 1ST APRIL

11.30 for 12.00 in the

CENTRAL STATION - CONCOURSE MEETING ROOM

(next to Lost Property, opposite platform 2)

**UNLOCKING THE POTENTIAL – MAKING RAIL COMPETITIVE
BETWEEN MELBOURNE AND BRISBANE**



Change – happening now. Improvement – coming to you soon.

TIM RYAN, G.M. North-South for ARTC will provide an overview of the very significant upgrading of the Melbourne – Sydney – Brisbane rail corridor now under way and the anticipated impact that the improvements will have on the longer term rail freight market.

Concrete sleepers, longer loops and passing lanes, signalling modernisation, bridge upgrades and now a significant gauge conversion project are all part of the improvement program. It is not often appreciated that the Melbourne – Sydney corridor will go from 50% of its length being single track to just 20%, a quite remarkable advance that is being achieved with a minimum of fuss. A key part of the whole program is the Southern Sydney Freight Line between Macarthur and Chullora, a project which is now under way and is due for completion in a bit over a year.

Tim will provide the detail and the stories behind the story in his own inimitable way. This promises to be an entertaining presentation – one not to be missed

The usual light lunch and refreshments will be available prior to the meeting proper.

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A WORD FROM THE CHAIR: Andrew Honan

Last month I undertook to report more fully on the details of the RTSA National Executive meeting held in Wellington on 24 February 2009. John Dring, the RTSA National Secretary, has provided a summary of principal issues discussed and I would like to present it to you below.

IPENZ Discussions were held with the Chief Executive of IPENZ, Mr. Andrew Cleland, who briefed the Executive on the role of IPENZ and its relationship with EA. An opportunity was taken to present an outline to Mr. Cleland of the plans for the CORE2010 Conference that is to be held in Wellington in September 2010.

STORE2009 Plans for the Study Tour of Asian metro systems were discussed. The tour now will take place between 12th and 23rd September 2009, visiting Singapore, Kuala Lumpur, Shanghai, Beijing and Hong Kong. Full details and calls for registration are to be published soon. (See STORE item later in this Newsletter)

Young Professionals Attention was given to the topic of how best to attract young professionals to join the RTSA and, having done so, how to retain their interest and participation. Further investigations are to be undertaken on this important topic.

Professional Development Initiatives Several Professional Development initiatives were discussed. One such initiative is to identify high profile leaders to make presentations to young rail industry young professionals on non-technical managerial techniques. Initially, as a trial, this initiative will be pursued first in Melbourne.

Railway Career Days An initiative is being pursued to hold railway career days at selected universities with the objective of stimulating the interest of undergraduates in the rail industry.

RTSA Awards As a result of a poor response to the call for nominations in some categories of award, it has been concluded that more work still needs to be done to market and advertise the awards generally.

Sub-Committee Terms of Reference It has been agreed that the Terms of Reference for each of the RTSA Sub-Committees shall be published in the website.

RTSA Website Further initiatives are to be taken to improve the both the quality and the contents of the RTSA website.

CORE2008 A closing report was received for CORE2008 and it was agreed that this conference is a hugely successful event in terms of the number of delegates, the levels of sponsorship and the participation in the trade exhibition. A detailed Terms of Reference has been prepared to assist with the arrangements for future CORE conferences.

Business Plan Following the undertaking of a comprehensive SWOT analysis, a further draft of the revised RTSA Business Plan was tabled and it was agreed that further work needs to be done before a final version can be adopted. As part of the considerations regarding the Business Plan it has been agreed to conduct a review and rationalisation of the various RTSA sub-committees.

CORE2010 Arrangements for CORE2010, which will be held in Wellington New

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Zealand, between 12th & 14th September 2010, are moving ahead and progress reports will be made to members from time-to-time.

RTSA Marketing Plan Once the RTSA Business Plan has been completed it has been agreed that the associated Marketing Plan will be developed.

RTSA History Book The history book "The RTSA – The First Ten Years", authored by Dr. Philip Laird, was published just prior to CORE2008 and copies are available to all members of the RTSA at no cost

Awards In 2009, awards will be offered in the categories of Railway Engineering Student Thesis, Contact Mechanics, Young Railway Engineer and Individual. Nominations for the first two categories will close on 28th November 2008 and, for the other two categories, on 27th February 2009. Consideration is to be given by the members of the Awards Sub-Committee as to the appropriateness of introducing a new category of award for post-graduate work.

Post Graduate Degree Courses A number of universities now are offering post graduate degree courses in railway topics. The Central Queensland University offers a Signalling and Communication course, the University of Wollongong has a Master of Rolling Stock Engineering program and a Track and Infrastructure course has been introduced by the Queensland University of Technology.

Information Dissemination The Executive is committed to explore opportunities designed to improve the dissemination of a variety of information to its members. One of the first initiatives will be to establish a template of railway related courses and seminars on the RTSA website

ASLEEP AT THE WHEEL, OR PLUNDERING THE JEWEL BOX?

Back in 2000, under Freight Australia, the regional freight rail network in Victoria included among its business activities the following

Grain – export and domestic

Briquettes – from Morwell

Cement – from two Geelong area plants

Containers – Warrnambool, Portland (SG), Horsham (SG), Donald, Mildura, Ballarat, Boort, Echuca, Deniliquin, Mooropna, Tocumwal, Wodonga (SG) and Morwell

Stone – from Hanson's Kilmore East quarry

LCL – road and rail to various

Fertiliser – from North Geelong

Gypsum – from the Pinnaroo line

Logs – from Bairnsdale and late in 2000 from Wodonga

Paddy Rice – to Echuca

Liquid fuels – from Corio (Geelong area)

Paper – from Maryvale.

Pacific National bought out Freight Australia in 2004. Drought has decimated some agricultural traffics, while plant closures have reduced others. Briquettes were overtaken by natural gas. However much of the remainder has been damaged by reduced and unreliable service frequencies and in some cases by

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extraordinary price hikes so that now the only remaining traffics (bold below) are a bare and possibly unsustainable small group of broad gauge services.

Grain – only SG export and BG domestic now being handled

Briquettes – gone (gas conversion)

Cement – Lyndhurst priced off rail while the rest is questionable

Containers – remainder handled by Patrick PortLink: Portland, Ballarat (price), Donald (drought), Boort (price), Echuca (drought), Deniliquin (drought), Morwell gone, Horsham (SG) taken over by QR, Portland (SG) revived by El Zorro

Stone - continues

LCL – closed down after a lingering death

Fertiliser – gone

Gypsum – gone (mine worked out)

Logs – Wodonga shut down while line is converted to SG, Bairnsdale priced off rail this month

Mineral Sands (SG) – new initiative by El Zorro (first new traffic on rail since Wodonga logs in 2000)

Paddy Rice – gone (mill closed)

Liquid fuel – gone

Paper – questionable

It would seem that if something is not done by someone with an interest in the retention of rail freight in Victoria there may be no regional freight at all within the foreseeable future. At least that outcome would simplify the Freight Futures plan – there wouldn't be any!

Never believe that rail is sacred – there are many out there whose motives do not include rail in any form or at any price.

THE MARCH MEETING: Reported by Malcolm Cluett

The scheduled speaker for this meeting was Mr Peter Moore (UITP). Unfortunately he had to defer at short notice so RTSA member Alex Stoney stood in at short notice. Alex always carried a camera, and enhanced his presentation with his own photos.

As a child, Alex used to help load railway vans with apples from a farm near Glen Aplin in Queensland. He was impressed that the farmers co-operated in loading their produce. (Rail haulage of apples from nearby Stanthorpe ended just a few years ago). After graduating he worked for an engineering firm in Melbourne, and for the BHP steelworks in Newcastle. At the time their track was in poor condition, and they had seven locomotive derailments per day! He then joined Commonwealth Engineering (Comeng) in Queensland while they were building the Sunlander carriages. (These carriages are still in service.) At the time they were also building QR freight cars, and overhauling steam locomotives. Alex ended up spending 24 years with Comeng, with a few breaks.

The **QR 1900 class railcars** with a stainless steel body were being built at that time, and Alex was involved with road testing. His job at that time was mainly designing jigs and fixtures for the production of rolling stock and sub-assemblies.

The company's other work was items for South Africa. (Comeng had an subsidiary there called the Union Carriage and Wagon company.) At the time the SAR was a very large concern, with a requirement for thousands of new carriages, and a surface transport monopoly in the country. (It had more rolling stock than all of Australia's railway put together.)

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Derailment

Alex was a passenger in a Sydney suburban train, which suffered an axle failure and derailed near the Eveleigh carriage works. Alex had his camera with him and took pictures of the slightly dazed passengers alighting from the train and walking along the tracks to Redfern station. (No Nannies in those days!) The contemporary fashion for ladies skirts to be tight at the knee did not help them in climbing down the rudimentary steps to track level.

Southern Aurora Cars

For the Southern Aurora cars, the design was based on that of the older VR-SAR Overland cars. One of these was tested on the standard gauge in NSW. There was a little "reverse engineering" in the case of the steps to the upper bunk, when a formal request for the design was refused from the SAR in Adelaide! The Draft Sill was made straight, to better cope with traction forces (and derailments), rather than incorporating an arch near the bogie pivots as on the Overland cars. Later, during the Violet Town head-on collision, this design feature may have contributed to a smaller loss of life than would have been the case with curved sills. The closing speed in this collision was 200 km/h.

QR SX sets

The SX sets in Queensland, which were also stainless-steel bodied, never had any structural problems. These lasted in QR service until 1997. Even though they were intended to be EMUs, they were loco-hauled for their entire life, by steam, diesel and electric locomotives. They were also used in Perth prior to electrification and are currently to be found operating in New Zealand and South America

Dome Cars

An American-styled Baggage/Dome observation car was designed for the NSW loading gauge. A version with a full-length dome was also offered for the Indian Pacific. Neither of these concepts were ever built, but Dome Cars are an enduring feature of long-distance trains in North America. The dome car design was done in a similar manner to the Budd Cars, which were also cut down from the North American loading gauge to suit NSW conditions.

Budd Car DMUs for NSW

Five of these were built, but they were not really utilised to take advantage of their ability to be self-propelled, and driven from either end. They were used as a five car block between Sydney and Bomaderry. A loco-hauled train would have been more satisfactory in these circumstances, with less maintenance required. (in the end that was exactly the fate of the NSW Budd DMU's)

Sydney EMUs

A double deck stainless steel EMU car was designed for Sydney in the year 1961. The detailed design was completed, but most of it (apart from a single perspective illustration) has been lost. This impressive looking car was never built, and Tulloch Limited won the initial orders for DD carriages. When Comeng did eventually commence production of DD EMU cars in 1972, they looked somewhat different to the earlier design. Most of these cars, in both motor and trailer form, are still in use. For structural analysis, portable petrol-powered vibration units were attached to structural members, and the resultant vibration was measured at different excitation frequencies.

Freight Initiatives

Alex did some work on rolling stock to suit shipping containers, which were introduced to Australia around 1968. Alex was also involved with Road Railer vehicles. A subsidiary of Comeng was set up to operate these trains, but the concept was not adopted in those pre-privatisation days, where there were no

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competing services on the various state-owned rail networks. To this day, Road Railers have seen limited application in Australia, and never in the Eastern states. They are an attempt to combine the flexibility of road haulage with the cost advantages of long-haul rail.

Double Deck Interurban Cars (V sets)

A documentary film was made on these, coinciding with their introduction, and a copy is in the National Film Archives. Alex was interviewed about these on Channel 7, and the interview was extended because Channel 7 misplaced their copy of the film and had to fill the time in some way! These cars are still in service, and preferred by many commuters over the replacement G and H sets (which have five-across seating).

Newsprint Freight Vans

Alex was involved in attempts to install a loading ramp, suitable for forklifts. Because of the variability of platforms, and the available clearances, this was not possible, and ramps were not incorporated into the design of the cars.

The Mittagong works of Comeng was asked to fabricate some sub-assemblies of these cars, using an existing design on an older (imperial) drawings, but were unable to do so because they only had tooling in Metric units.

Alex was involved with the Metric Conversion Board. This was a Federal Body, and had plenty of money for interstate travel and accommodation.

Woodchip cars in WA.

These had a cracking problem in the discharge door area, and Alex did a re-design to rectify the problem. These large cars are still in service.

Side Dump Cars

Alex was involved in improving the design of some such cars, but Comeng did not receive any contracts for their construction. (A wagon borrowed from BHP had a tendency to overturn during the dumping operation when conveying railway ballast.)

Rockwell Bogies

A modified design of freight bogie was tested underneath a van on the NSW rail system. It was supposed to travel just between Sydney and Melbourne, but ended up travelling to Brisbane after a few journeys. Because of the design of the bogies, the clearances were rather small on some bridges on the North Coast Line. Windows were fitted to the floor of this van for examination of the Rockwell bogie behaviour under speed. The ride quality on Australian track did not come up to expectations, and no orders were received from Australian operators.

High Pressure Rail Tank Cars for Propane. These had 25mm thick walls, and represented a new market for rail haulage. Producing such tanks, with complex conical sections and welded joints, was a major challenge. Examples of this car were used in Queensland and other states, and even though it was never interchanged, it is the closest that the normally insular QR came to adopting an interstate freight rolling stock design.

Adelaide RailCars. The Comeng stainless steel 2000-series cars, with the unusual elevated driving cabin, were an impressive design but rather overweight. There was consideration as to how first-aid teams could

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move an incapacitated driver from the elevated cabin. They are still in service, and were a big advance over the earlier Adelaide DMUs.

Saudi Railways Royal Train – designed by Comeng but order went instead to a Swiss company.

Bulk Cement Wagons with pneumatic discharge

The design was based on UK cars, and Alex visited the overseas works to inspect their design and the loading/unloading facilities. These cars are still in use in Australia.

Four-Deck Sheep and Two-deck Cattle cars. (Two floors were movable, to suit either sheep or cattle). They were designed to be easy to clean. However there were none of these dual-purpose cars built. These vehicles would have been most impressive, utilising the full length, width and height of the loading gauge. (Livestock are still hauled by rail in Queensland, but such traffic ended in the 1980s elsewhere. If these wagons had been built, livestock might still be carried in NSW. A full-size mock up of a module was manufactured.

24-axle “NZZA” heavy-haulage vehicle (600t capacity). Comeng prepared two different designs for the haulage of power station components. This vehicle was eventually built by a competitor (in Italy) but received very little usage, probably due to the improvement in the road system for the carriage of over-height and over-weight loads. It is preserved at the Dorrigo railway museum.

Alex undertook a visit to North America to visit an affiliate of the Chesapeake and Ohio Railroad (which was involved in developing Roadrailers) and also the Budd factory. Alex took the opportunity to ride the Philadelphia Metro, which at that time was the fastest in the world (130 km/h) despite the use of 3rd-rail current collection. Alex also visited the ALCAN office in Toronto (Canada) with a view to using North American technology for aluminium freight wagons. While in Canada, Alex did some unauthorised inspections of the roof hatch details of Canadian grain wagons, in unfenced yards. The temperatures were down to -20°C.

The XPT was a major project for Comeng in NSW, but not really for Alex, who had moved on from structural design at that time. A new series of loco-hauled stainless-steel cars for the QR Sunlander, which augmented the earlier cars, were built in the same period.

Australian National Industries and Comeng both wanted to take over the company Bradford Kendall. In the end ANI took over Comeng. Alex thought that this was handled badly, and there were 83 retrenchments including Alex. Alex left Comeng and spent a period preparing a lengthy report on a Level Crossing accident as an expert witness.

Later he became the Technical Sales Manager of **Davies Metcalfe Limited** (involved in supplying equipment for the QR EMU trains). He was also involved with LocoTrol equipment (ie, remote controlled locos mid-train, for long coal consists). This led to some rides on QR coal trains in a Queensland summer, and observed the whole train negotiating a significant track buckle, and no doubt the problems in handling very long trains over undulating gradients.

Later still, Alex worked for **Clyde Engineering**. He worked out the Head End Power arrangements for the **Victorian N class diesel electric** locomotives (for passenger car air-con). This application was a success, unlike other HEP applications in Australia.

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AN class 4000hp locomotives – Alex was involved in the design of the bogies. These were designed to be assembled from pre-manufactured bogie components, using rubber spring elements, and the aim was to achieve the correct weight distribution without trial and error.

Alex also worked for **MainTrain** for a while, handling technical specifications.

Alex was also involved with the design of a discharge door mechanism for coal hopper wagons. This idea ended up being patented.

At the recent CORE 2008 conference in WA, Alex saw some iron ore cars he had designed, still operating on the Mt Newman railway 40 years later.

Alex was thanked for a very interesting presentation. Almost any part of it could be expanded into an hour-long presentation in its own right. Alex had spent his entire career involved in the design of rolling stock, and he found it an interesting and rewarding career.

Alex's one regret was that he has never travelled at mainline speeds on a steam locomotive !

AS A MATTER OF FACT: Max Michell

History is a strange thing. It has a habit of making notable events and achievements look simple when in fact our contemporary experiences are, in one degree or another, usually reflective of the experiences of our forebears when dealing with major changes or projects. The same structural and institutional obstructions, the same gaggles of naysayers and the same need for persistence will be found to be behind any past major achievements once you peel away the superficiality of simplified history. J. J. C. Bradfield spent much of his professional life advocating a Harbour Bridge / City Railway solution to what was then (and remains) a major problem. Multiple attempts by opponents to delay or derail his vision extended the time taken to achieve a result by decades. Political and professional short-sightedness and disagreement was a powerful weapon to achieve a 'do nothing' situation in the absence of a 'champion' – something that was only overcome with fiery support with the ascendancy of Premier Jack Lang. Maybe Bradfield didn't have to run the gauntlet of the multitude of contemporary approvals that we have to put up with, but then he didn't have access to our construction machinery and techniques either. The many years he persisted niggling away at the problem in the end paid off, not just for the man himself but for the city that many of us now adorn.

History as it is written is quick – as long as it takes to read a book, or as is the norm these days, to watch the mockumentary. History that we are living in on the other hand seems to take forever – think of the Southern Sydney Freight Line – first seriously put forward as a knee jerk response to the Keating "One Nation" project in 1992, raised again as a realistic proposition as part of the 2004 agreement between the NSW Government and ARTC, and only just now starting to actually get under way. No doubt history will cover the machinations and frustrations of these 16 or so years in a few paragraphs, thus reducing them to a blink in time.

The other aspect of living in history is what now seems to be described as the 'boiling frog' syndrome – while things seem to happen (very) slowly it is sometimes difficult to notice the changes. How long does the Clearways thing seem to have been going? How long did it take to get the OSCAR trains in running? If you can't remember it is probably because these things seem to stretch back to eternity. If it is in the here and now it seems to take a very long time for very little to happen. In some cases quite a bit happens

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but in a way that conceals awareness of the true extent of events. There are some interesting current developments in the rolling stock business that don't seem to have rated much of a mention, but may turn out to be quite significant in the historical record.

Since time immemorial the various railways in this country have created their own loco designs to suit their own needs. Very little crossover between systems was evident in steam days – the various copies of state railway loco designs by Commonwealth Railways was perhaps the most conspicuous but sale of 10 Victorian N class to the SAR was another. In the diesel era there were similarities between locos for different states in some cases, but gauge and insularity tended to leave that as an exception rather than the rule.

Breakup of the old established order in the late 1990's, with freight rail now being predominantly above rail (train) operators and/or rail infrastructure operators with scant regard for state boundaries initially saw something of a halt to significant rolling stock acquisition, apart from the Pilbara and Queensland. In fact it is only in the last two years or so that new locomotive production has blossomed again, but with a significant difference. Out of a total of 13 different orders (orders not yet fulfilled) for 208 locomotives a total of 162 are for one of four more or less standard types. There multiple orders for United / GE 4300 hp ac traction locos, EDI / EMD 4300 hp ac traction locos, EDI / EMD narrow gauge 3000 hp ac traction locos and Siemens narrow gauge 5300 hp electric locos. In some cases such as the two narrow gauge types the orders are for coal haulage, which due to infrastructure constraints, need to be of similar performance for the two competitive above rail operators there. The two 'big gauge' loco types are more or less the same animal but put out by the two major manufacturers here. They involve no less than six orders for six different companies for work ranging from coal and iron ore to inter-modal. Two of the orders are for leasing companies, which means that for the first time there will be front line power available to lease. It would seem that we may have actually arrived at the situation that has applied in America for decades of having basic loco types that can be tweaked to suit individual customers but are otherwise bog standard – a far cry from the highly individual but high cost practices of the past. There are three levels of loco provision now going on – new current technology, new box but second-hand internals, and revived 'dear old things'. The first are what are now looking very like the new standard fleet offering, while the last is really only a stopgap for short haul and impoverished pockets of the industry where capital expenditure would be quite unsupportable. The middle group, typified by the XR and RL types are created using used engines (and other traction equipment) in either a recycled 'box' (as with the XR) or a new 'box' (as with the RL). This type of development may be quite appropriate for secondary and regional lines where infrastructure limitations preclude new high power locos, but where 'dear old things' are too underpowered and inefficient to be affordable for the sort of distances required. The dark cloud on this horizon is the recent order placed by KiwiRail (New Zealand) for 20 locomotives from China.

In the carriage and freight wagon business there is another trend that must be of concern to the manufacturing industry. At present there are 228 carriages on order that will be largely manufactured in Italy, and a further 626 that will be partially constructed in China. With modern relatively high tech designs there will always be an overseas component but these orders take this to a new level. There are good reasons why these orders have basically been sent off-shore, the twin issues of cost and delivery time being right up front.

In the freight wagon business there are no less than 1970 wagons on order from China, the vast majority of which are for iron ore haulage in Western Australia. When your railway is about equidistant from the Australian east coast and mainland China it probably makes the decision as to source, all other things being equal, rather simple. However there is a small order for east coast grain wagons, presumably following on from rather larger numbers supplied some years ago. In the freight wagon supply business it

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is apparent that our peculiar loading gauge and track limitations have engendered some very appropriate local designs which are competitive with the rather clunkier overseas products. As long as the local industry has this capability (of superior design) there may well remain a place for local production. If ever the local rolling stock outline is extended to match the American outline (basically 10ft 6 in wide and 15ft 9in high), which is likely to be sectional rather than universal, then of course we could see far more second hand rolling stock imports than in the past (think AN, FreightLink and CFCLA for past examples) which may change the dynamics of the freight wagon market. At this stage there is no immediate prospect of this apart from container platforms built o standard container widths.

We are sitting in the middle of this little piece of history so my reading of the tealeaves may be seen in time to be way off course. But in the big picture it is reasonable at this stage to observe some interesting changes developing in the manufacturing side of the rail industry – in fact it is good to see sufficiently large acquisitions at the present time to be able to see any trends at all. In some degree the activity of locomotive and rolling stock manufacturers is reflective a measure of optimism in the industry as a whole. It is feels promising to be sitting in history with optimism!

STORE – STUDY TOUR TO ASIAN METRO SYSTEMS

The RTSA will release its 2009 Asian Metro STORE Programme and Application Form on Wednesday 1 April 2009. This will be emailed to all RTSA members and will be available on the RTSA web site.

The tour will span some 10 days from 13 September to 23 September 2009. With a package cost of \$4,900, participants can expect all air fares, good standard accommodation, transport, metro guide, day-to-day meals as well as the opening and closing dinners which will be special RTSA events.

Limited discounts of \$1,500 will be offered to young members and general discounts of \$1,000 will be offered to all other RTSA members. Details of eligibility will be outlined in the application form.

The tour size will be capped at 20 placements.

The aim of the tour is to educate members on the high performance of metro systems in the Asia Pacific region. It sets out from Singapore, passing through Kuala Lumpur, Shanghai, Beijing and ends in Hong Kong. The tour entails not only metro tours in each selected country but also site visits to some of the major railway organisations.

Organisations from a broad spectrum such as manufacturing, operations, academy and research have been invited to participate in support of the STORE - to diversify the nature of the tour.

There will also be an extra option to visit some of the sights in Beijing such as the Great Wall of China.

This is a wonderful opportunity for rail professionals to develop their rail capability and build relationships with like-minded overseas professionals. Members will enjoy and experience the marvels of world class metros and to bring that understanding to their own local operations.

Despite the world economic downturn, this educational and cultural exchange is a vital component in developing urban rail systems for our cities - something that will be necessary to support city-economies of the future.

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For details of programme and application forms please keep an eye out for the email on 1 April 2009.

The RTSA web site (www.rtsa.com.au) is a reference point for this tour. E-mail MetroTour@rtsa.com.au if you have any queries, issues or suggestions.

GRAFTON CONVENTION – 12th to 14th JUNE 2009

IE Newcastle Division, in conjunction with RTSA and IE National Committee on Transport is holding a Convention in Grafton from Friday 12th June to Sunday 14th June this year. The topic is **Transport and Communication: Australia's Backbone – Past, Present and Future** and is in Grafton as part of the 150th anniversary of the founding of that city as well as the 75th anniversary of opening of the double deck rail and road bridge which completed the standard gauge rail link between Sydney and Brisbane.

A number of keynote speakers have been invited including David Marchant, CEO of ARTC and Wal King, head sharang of Leighton Holdings both of whom are natives of Grafton.

RTSA members who are not EA members will be offered the same discount as EA members.

RTSA is planning to hold a dinner for RTSA members on the Friday night. The venue and detailed arrangements are to be advised.

Registration is now open. Registration documents will be circulated to EA and RTSA members in the near future.

Chris Venn-Brown is the RTSA coordinator for this event. Chris can be contacted at rpes@bigpond.net.au but it would be sensible to go to the IE Newcastle web site (www.newcastle.engineersaustralia.org.au) first. Coen Stoltz is looking after the Young Engineer side of this event on behalf of RTSA, and he can be contacted on Coen.Stoltz@ttgtt.com.au. He is particularly interested in Young Engineer input.

LETTERS TO THE EDITOR

Letters to the editor are very welcome. In general letters should be relatively concise (no more than half a page) and should relate to either past material in the Newsletter, events or activities of interest, or reminiscences or future watching of the rail industry as a whole. If in doubt write anyway – the editor is quite pleasant to deal with after that first cup of coffee in the morning.

Geoff Sandford writes passionately, and at some length, in response to the January Point of View:

The essence of the editorial in the January Newsletter is that the traditional operating model has been euthanased while being usurped forcibly, by a not-so-hot inter-modal operation which minimized both the role and revenue of the rail systems. Alas, the truth is that one mediocre, market-unfriendly system has been replaced by another mediocre, market-unfriendly system.

Before it was actively euthanized, wagon load traffic was in decline. That decline was the hallmark of cavalier, lazy-bones mismanagement that commenced in the late seventies. The problems, for which read challenges, of this traffic were dumped in the too-hard basket, and consequently, unless freight volumes were considerable, the traffic was allowed to wane.

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Railway Technical Society of Australasia
NSW Chapter
Mail: PO Box 6238, Kingston, ACT, 2604

MARCH 2009

The challenges posed by wagon load traffic were multifaceted. The quality of the service was frequently unsatisfactory. Fixing transit times was one of many shortcomings that encompassed obsolete wagons, costly, inflexible wagon placement and removal, rough shunting and rates that were not low enough to keep the traffic on rail. Regrettably, in the second and third paragraphs of the editorial, it is suggested that containerisation is not the saviour for medium-haul traffics (actually it was 'retail' traffics – Ed).

Firstly, it is wrongly implied that the recent history of inter-modal operating practices has proven that inter-modal is not the solution; Long trains, I.S.O. containers of low payload and crane based transfer have been misapplied in this domain.

Secondly, it is not generally known that road-rail containers can carry 20-40% more payload than standard 40ft ISO containers (providing they remain legal on road - Ed). A typical pick up or delivery will generally run to 2-3 hours, with the tow operator charging a fixed hourly rate regardless of payload handled - if there is 40% more payload, the rate per tonne drops a massive 29%, and this applies both to pick up and delivery. Once again the case for new generation RR containerisation is made plain.

Thirdly, it is overlooked that the factories and warehouses that used to have private sidings, installed them up to a century and more ago – in a different era. The capital cost of connecting them to rail, even if they are well sited, is often prohibitive unless tonnages are high. Often containers are the only option.

Now, let us look at the endangered state of wagon load traffic before it was euthanased.

Why was wagon load traffic vulnerable?

1. Slow erratic transit times: cannot comply with J.I.T. logistics
2. Partly because of 1, problems of availability of wagons
3. Wagons not completely suited to their cargo
4. Absence of ALL-DOOR & TAUTLINER wagons for ease & rapidity of loading
5. Wagons over weight (reduced payload)
6. High cost-especially labour of servicing private sidings and ever increasing the constraints on when they could be accessed (in major urban areas)

And to the above must now be added the Damoclean sword that hangs over all wagon load – private siding operation. That "Sword" is the Occupational Health and Safety watchdog, imbued with Nanny-State doctrines, who have the powers to effectively outlaw them.

The problem of slow and erratic transit times was not so easily fixed and had numerous repercussions. Solving it required a higher tempo of rail operation in yards, something achievable with multiple throat hump yards and a variety of technological innovations to ensure that wagons spend less time standing still.

It needs to be recognized that good, consistent transit times, as well as being mandatory for the customer, helps solve the wagon availability problem. In U.S. experience of the 50's and 60's, wagons moved just 50 miles per day, about one fifth of the 250 miles that should be feasible. Low wagon productivity is not acceptable, particularly as specialty wagons can be very expensive.

Wagons must be suited to their cargo, when carrying foodstuffs, rigorous criteria must be met. Private owners' wagons tended to achieve this criterion, but "pool" wagons did not.

All-door wagons appeared in the U.S. circa 1967 with the development of the "plug" door. This major break through kept many clients on rail and brought others in. TAUTLINER types deliver the same advantages with lower capital cost and tare weight.

Generally and increasingly, wagon load movement is a one way movement, with respect to payload. Thus payload must be maximized. Tare is an issue – and generally tare is overweight.

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The editor's lamentations in respect of containerised traffics omits mention of some of the most serious management deficiencies of this sector of the market, particularly in a post late-70's context. He targets the "love affairs" with forwarders and the insulation of client from rail. Forwarders, generally, are not beholden to road line haul and strenuous efforts have been made to get rail to improve its role. It should not be forgotten that TNT'S CONTRANS was the brain-child of founder Ken Thomas, himself the son of a railway man!

As emphasized in a prior article (Dec '08) mismanagers have sabotaged road-rail containerisation in committing the grave error of making maritime containers the norm. The deadly problems of delays and reduced feeder trip payloads are an integral part of crane & top lift container model that has regrettably failed. The solution necessarily involves truck based interfacing for nil-delay, high tempo movement.

A serious error is 1500 m trains. The vast majority of road competitive inter-modal traffic can be handled by (single) 4 axle Diesels of 4000 hp (axle load permitting – Ed) pulling trains of 15-30 containers, typically carried on articulated carsets. Thanks to high load/tare ratio and reduced manpower, they will be highly economic. Such trains were envisaged over 30 years ago. In the U.S. the F.R.A. sought cooperation from several systems to develop new generation IM concepts, based on smaller but fast and frequent trains of superior average speed. The former MILWAUKEE and ILLINOIS-CENTRAL GULF were involved in this ill-fated program, but not before EMD's projected AMT-125, 3000 hp Loco (competitor to DOFASCO'S LRC) was presented as the motive power answer in a package involving important labour & operating reforms.

In the quest to increase rail's role in inter-modal traffics, the following twin solutions are offered.

The awesome potential of ROAD-RAIL containerisation is so little recognized that a pair of innovative solutions to (road linehaul) competition, have missed! The pair constitute viable variants to the "normal symmetrical operation with road feeder/distributor at each end of a rail linehaul. These are the "Distributor" and "Gatherer" concepts.

- I. The Distributor Concept. This applies to single origin-multiple destination traffic. Thus, a factory with private siding directly loads the containers as they sit on the wagons, which are then moved to multiple interface (destination) terminals, where road delivery completes the task to scattered off line clients. Cargos could be building supplies, processed foods, manufactured goods or bulk solids and liquids (inc. chemical) which latter would be gravity fed into hopper & tank containers respectively as they sit on the wagon.
An example is the London Brick Co. In Britain, during the great Freightliner era of the seventies and eighties, this company loaded bricks directly on to container flats sitting on wagons at its central brickworks. Blocks of wagons were then line-hauled to various Freightliner interface terminals over varying distances to be road delivered to actual building sites.
- II. The Gatherer Concept. This is the precise reverse of the distributor above. Primarily targeted at primary producer, the containers (on truck) are field or dock loaded and moved to decentralized low cost interface centers (sidings) where they are loaded on to perimeter frame wagons. Blocks of such wagons are then line-hauled to central plants (with private siding) where containers are unloaded as they sit on the wagons Fruit & Vegetables in unitised crates etc are side unloaded (TAUTLINER type containers) while a wide variety of produce-handled bulk can be gravity discharged through hatches in the base of the container. This latter of course, is feasible only with perimeter frame wagons (devoid of centre sills).

For the best example we go back to 1938 where the N.Y.O. & W. in co-operation with dairies in upstate New York, introduced the "FITCH" system of side transfer where milk tanks were loaded onto flat cars

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which were attached to milk trains destined for private sidings in Weehauken, New Jersey. Six railroads participated in this traffic. ISO containers and centre sill wagons - forget them!

In some instances, the twin solutions described above can act as a transition back to wagon-load operation, but typically this will require major traffic increased to justify the capital outlay.

All-in-all we in the rail industry have a lot of work to do!

(Editors comment: this long letter certainly begs for responses on a number of issues that Geoff has raised – rolling stock, motive power, operations, inter-modal and so on. I am waiting, poised above the editorial keyboard, for you to contribute your views)

MEETINGS

Future meetings are listed toward the back of this Newsletter. Meetings are normally on the 1st Wednesday of the month at 11.30 for 12.00 in the large meeting room off the main concourse of Sydney Central (Steam) Station. The venue can be found in the North West corner of the main concourse opposite platform 2, next to the Lost Property Office. For those who want to keep up to date with their books and magazines the ARHS Bookshop is only a few metres east of the meeting venue – usually quite a few of our attendees can be found in the bookshop after our meetings!

TELL US WHAT YOU WANT (OR IS EVERYTHING PERFECT?)

There are a multitude of activities and developments happening within our industry, ranging from the high level (policy and the like) through major construction and acquisition to relatively minor matters that often go completely unrecognised and unreported are all part of our industry and in most cases are only known in detail by relatively few of us.

We are always on the lookout for interesting and varied topics for meetings. Basil does a great job in getting an interesting and varied program up, but he would welcome any, all or more bright ideas from members. So if you have a pet topic, or are overcome with curiosity about something of interest in the rail domain, then contact Basil at basil.hancock@railcorp.nsw.gov.au and let him know.

It may be that there are activities (such as visits, 'out of town' locations for meetings, social gatherings or whatever) that we could do additionally or instead of the existing range of goodies provided by our Chapter of RTSA. Let us know and we can then consider what and how we might be able to improve the things that we do for members. Contact in this instance should be to Andrew Honan in the first instance – details of how to let Andrew know are on the back page.

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DATE	SPEAKER	TOPIC	LOCATION	TIME
1 April 2009	Tim Ryan General Manager North-South, ARTC	Unlocking the Potential – Making Rail Competitive Between Melbourne and Brisbane	Central Station Concourse Meeting Room	11.30 for 12.00
6 May 2009	OTSI	Railway Accident Investigations	Central Station Concourse Meeting Room	11.30 for 12.00
3 June 2009	Ivan Waterfield Executive Manager, Cardiff Operations, Downer EDI Rail	RailCorp PPP A-Trains	Central Station Concourse Meeting Room	11.30 for 12.00
1 July 2009		Sydney Light Rail and Monorail systems update	Central Station Concourse Meeting Room	11.30 for 12.00
5 August 2009	Stephen Walsh General Manager, Hardface Technologys	Rebuilding Rail Track In Situ	Central Station Concourse Meeting Room	11.30 for 12.00
2 September 2009	David Wynd Projects & Engineering Manager, Faiveley Transport Australia	Electronically Controlled Braking	Central Station Concourse Meeting Room	11.30 for 12.00
7 October 2009	Peter Moore Executive Director, UITP Australia	Presentation on the UITP	Central Station Concourse Meeting Room	11.30 for 12.00
4 November 2009		Railway Incidents and Recovery	Central Station Concourse Meeting Room	11.30 for 12.00
2 December 2009			Central Station Concourse Meeting Room	11.30 for 12.00

BLACK TEXT: indicates meeting is confirmed

BLUE TEXT: indicates request has been made to speaker

RED TEXT: indicates a suggested topic only at this stage

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John Watsford	Committee	Paul Harris	Committee
Chris Venn-Brown	Committee	Katharina Gerstmann	Committee
Malcolm Cluett	Committee		
Candice Ng	Committee		

CONTRIBUTIONS TO THE SYDNEY NEWSLETTER

Part of the function of RTSA is to keep members in touch with what is going on in the industry and with each other and to that end we are only too happy to publish items of interest. Articles, letters or editorial comment for Newsletter are very welcome. We have several hundred members locally some of whom have stories, events or developments of interest that could make an interesting item for our NSW Newsletter.

Contact details are –

The Editor, Max Michell,

- e-mail to samrom@bigpond.com,
- phone 02 9331 5662 or
- post to P.O.Box 279, Potts Point, NSW, 1335.

For all other matters relating to RTSA Sydney Chapter contact Andrew Honan (Chair) or Bill Laidlaw (Secretary) as above.

CPD CREDITS

Engineers Aust members who attend RTSA meetings and events will qualify for CPD credits as per the Engineers Australia criteria. Members are responsible for recording their own CPD for audit.

NOTICE TO MEMBERS RECEIVING RTSA NEWSLETTER BY EMAIL

If you receive this Newsletter by post but would prefer to get it by e-mail (quicker and more reliable) then please let the Canberra know (address in the page header). E-mail saves time for you and costs for RTSA, which in the end can only mean better service to our members. There are occasions when email members are able to be advised of events or changes at very short notice which cannot get to mail members in time to be of any use.

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