

NEWSLETTER No 3/2004



Railway Technical Society of Australasia
SA Chapter
Engineering House, Bagot Street
NORTH ADELAIDE SA 5006

MARCH 2004

NEXT MEETING

**THURSDAY 1st APRIL AT BAGOT ST,
NORTH ADELAIDE (Institution of
Engineers) - at 17:30.**

CARGOSPRINTER – TAKING ON TRUCKS AT THEIR OWN GAME

There are a couple of intuitive entrepreneurs in the freight handling industry in Australia who are real friends of the railway. One such is Col Rees, who is the well known co-proprietor of the CRT Group. CRT has a small rail freight terminal in south west Melbourne that daily sends out a train to Sydney and anywhere between one and four trains to the port. The latter services are run using the innovative CargoSprinter – a genuine unit train powered by truck engines in driving vehicles that are also freight carrying. Between two of these rather extraordinary power units are a number of more or less conventional container flats that have electrical plumbing through them so the power units (and for that matter other CargoSprinter sets) can run in multiple – hence the unit train appellation.

CargoSprinter has a capacity of somewhere in the range of 20-30 TEU (20 ft containers) depending on the route and ruling grades. It is bigger than a wagon, smaller than a normal train, but can go anywhere that is rail served. Multiple unit sets can peel off or amalgamate along a route to serve customers that otherwise would not be able to attract even half way commercial business for the rail service (i.e. they would be wedded to trucks by default). CargoSprinter is capable of 130 km/h and in practice could be seen to be the freight equivalent of XPT – high speed fixed consist train.

Col will be coming over to give us a presentation on this remarkable train which is still going through its prototyping process. It is rare to find radical rail innovation such as CargoSprinter so this should be a presentation not to be missed.

The meeting starts at 17.30 with the usual nibbles and refreshments, followed by the presentation at around 18.00.

FUTURE MEETINGS

6th May at Bagot St. Our own George Erdos will do a presentation on rail safety. The blowtorch is being applied to the subject of rail safety as never before, as anyone who is familiar with NSW will be only too well aware. George will give us an insider on this topic.

3rd June at North Terrace: Joint meeting hosted by PWI at their normal North Terrace venue on the topic of the 'AK' track condition monitoring train.

20th to 23rd June: CORE2004 in Darwin – a not-to-be-missed event. Registration brochures, for anyone who missed out (or needs additional copies) contact the CORE2004 Secretariat at techrev@core2004.on.net or by writing to GRMS Media at PO Box 595, Prospect East, SA, 5082 without delay.

An update item is included later in this newsletter.

Late June: An eminent speaker, Hans Bier, Project Director of GSM-R Communications in Germany will talk about communications upgrade for the DB (German Railways) the date and venue will be confirmed in a future Newsletter.

5th August at Bagot St.: Malcolm Owens of ARTC will present on CORE2004 revisited – a précised version of papers presented by South Australians at CORE2004.

2nd September at Bagot St: a joint meeting with PWI hosted by RTSA at Nth Adelaide will have a presentation on concrete sleepers on the Trans Adelaide network.

7th October at Bagot St.: a presentation on TA's experience in outsourcing railcar maintenance

4th November at Bagot St.: Provided sufficient progress has been made we will hear about the new Port River rail bridge.

30th November at a Very Pleasant Location: the annual dinner with AGM attached.

This program is, of course always subject to the vagaries of life and may therefore change as the year moves on. Newsletters (or at the very least a flyer) are sent out before each meeting with confirmed details of the up coming meeting and up to date version of the future program.

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LAST MEETING

The March meeting was a joint meeting with PWI where Bob Sampson showed two very interesting movie films of Mile End yard when it was all broad gauge and in full flight (of course it is now predominantly no gauge except for the relatively small amount in the passenger terminal which is effectively now all standard gauge).

Bob started his working life in Mile End yard and was perceptive enough to make a habit of recording short movie sequences of the various activities in the yard while he was there (we are assured he also really did do useful work – the movie sequences were no longer than the minute or two that a clockwork camera would allow!). The amount of action was impressive, as it was in many major freight yards, and so were the numbers of people employed there. Gone are the days when real people were on the ground at rail sites which is something of a loss in that few, if any, up and comers now actually get a chance to get their hands dirty in the field work of railroading.

The second showing was a time lapse movie made by AN (involving a suspect or two who were at the meeting) of the daylight activity at both the north and south ends of the yard. The speed of shunt moves may have appeared somewhat alarming but the frequency and complexity of the moves were not. The number of trains arriving or departing to now defunct lines was also a reminder of how things have changed in the last 30 or so years, as were the relatively modest train sizes. It was interesting watching the south end action at Mile End to see the numbers of wagons that did not seem to move during the day – may be an indicator that SAR, just like other states, had far too many small wagons cluttering up the property to be able to work efficiently. It was around this time that four wheel wagons were falling off the agenda in large numbers in all states with dramatic reduction in fleet sizes and therefore sidings to hold wagons – the origin of the disappearing yards.

THE DRIVERS SEAT

This month I am inspired to write about a piece of Australian railroading that I regard as really most impressive. Ironically it involves the same railway that was the subject of last month's piece about the grain branch lines.

Every so often I manage to get to Newcastle as part of work and since work is as a rail operations consultant I tend to get to see the local bit of railway.

As most people will be aware the single most significant local rail operation is hauling coal from the Hunter Valley for export. There are relatively few locomotives and wagons employed to haul the 99 percent of the export coal by rail so there is a high degree of interaction and interdependency between the mines, railway and port. As might be expected the rail resources are worked hard and continuously even though the length of haul is relatively short.

Every time I get up to Newcastle the tonnage numbers have jumped by a large proportion. A few years ago the haul was somewhere in the low 60's – 60 million tonnes per annum – whereas now, with no more locos or wagons, it is around the low 80's – the coal business is booming since the withdrawal of China from coal exporting. At present there are more than 40 ships with a combined capacity of over 3 million tonnes standing off Newcastle waiting their turn in port. This is despite the fact that three or four monumentally large ships seem to come and go each day. To feed the appetite for coal the rail system has to deliver around 46 train loads of coal every day – near enough to a loaded train every 30 minutes. Just imagine 7000 tonne coal trains on the same frequency as the daytime rail car services to Outer Harbor or Belair and you get some idea of what this coal business is all about. To put it in another context I understand that Newcastle handles around 1/8th of the worlds export coal (making it the busiest single coal port on the planet), which means that the Hunter Valley railway is handling around 1/8th of the worlds export coal.

A majority of the train sets are comprised of 120 tonne hoppers (30 tonne axle load) with their curved sides reaching up to the (existing) height limit. These trains have a visual elegance that is unusual for bulk trains, but even more interestingly are extremely quiet in running. It is quite normal to be able to hear the track creaking as they pass. As soon as one train has gone past there will normally be another coming over the horizon, with the same thing happening the other way as empty trains head out for more loading. The largest single load sites at Mt Thorley and Newdell are within 100 km of the ports so the haul is not long. In fact the average train seems to turn around a couple of times a day providing commendable productivity for such a short haul.

The Hunter Valley rail line between Islington Junction (junction for Port Waratah, one of the two port lines) and Maitland is four tracked – one pair is primarily used by coal trains but with a smattering of other freight such as

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grain and steel, while the other is used by local and long distance passenger plus interstate and regional freight trains. Both pairs of tracks have similar train numbers running on them, but of course the trains themselves are very different. Two car railcars hardly compare with 7000 tonne coal trains but the track utilisation on both pairs of tracks looks to be similar. The end result is that an observer of this part of the rail network can frequently have two or more trains within sight at any one time and sometimes double that number. On one occasion recently there were (momentarily) three adjacent freight trains – a 1500 metre 'National Rail' Superfreighter, a 'FreightCorp' coal train and a colourful but quite archaic privately run container train side by side with an XPT and an empty coal train receding into the distance.

Despite all this there are some downsides. The few passengers on some of the slower peak hour railcars would have to be a worry given that they consume as much 'track' as a 1500 m Superfreighter, and there clearly are some infrastructure improvements that are crying out for resolution to improve capacity and reliability. No doubt at some stage in the future, assuming that coal tonnages continue to grow as they have been in recent years, there will be a need for more rolling stock while new locations that require capacity improvement will continue to appear. One of the problems when tonnages grow at the rate they are is that the planning horizon and construction timelines are foreshortened by the speed at which new capacity constraints 'bite'.

Queensland rail have a contract with BHP Billiton to haul their coal from the middle Hunter area. It is understood that new locomotives and wagons are on order, but with some very interesting new technology twists that will immediately put them into a 'next generation' context. It will be some months before these trains go into running but it will be extremely interesting to see the response (over time) that comes from Pacific National (the sole real coal hauler at present) given that technology in this sort of operation usually translates into reduced haulage costs, and the major coal producers are always watching their costs very closely.

Overall the Hunter Valley coal haul is a very impressive rail operation, more so since it runs on tracks shared with other rail activity. It is quite different to anything we have here in South Australia and in fact will be a new management experience for ARTC when it takes up the track lease later this year. Whatever the day or time, if

you are in the Newcastle (or even Sydney) area make the effort to have a look at this part of the NSW rail system, even if only to refresh your concept of what the word *busy* can mean on a railway.

CORE2004

Much of the SA Chapter committee's time has been taken up with organisation of CORE2004, which is now less than three months away.

We already have over 200 presenters and delegates registered for the event along with 30 exhibitors.

The support of our sponsors has been fantastic and we are very grateful for their assistance.

Major Sponsors: ARTC, FreightLink, Northern Territory Government

Gold Sponsors: iQR, Norgren

Silver Sponsors: OneSteel, John Holland, Barclay Mowlem, Bradken Rail, United Goninan, RTAA

The participation of sponsors and exhibitors is vital to the success of the CORE conferences. CORE is recognised as the forum where the latest and most informative Technical papers are presented and debated. CORE2004 will see a total of 54 technical papers presented plus an in depth plenary session on the planning and construction of the Alice to Darwin railway.

For 2004, both delegate and exhibitor fees have been kept at the same levels as for CORE2002, which not only is recognition of the fact that delegate travel costs may be a little higher than usual to Darwin, but also represents excellent value for money!

Due to capacity constraints at the Holiday Inn Esplanade venue, delegate numbers for CORE2004 will have to be limited to an absolute maximum of 350.

Members should regularly check the web site for more details.

www.core2004.on.net

It has recently been updated with details of the Technical Tour and the Gala Dinner and a downloadable registration form has been added.

The Gala Dinner will be held on the Lawns of the MGM Grand & Casino, Darwin on Tuesday 22 June and will

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include the RTSA Engineering Awards and Guest Speaker, the Hon Tim Fischer. Entertainment will be provided by Pot Pourri without doubt Australia's leading music theatre ensemble, presenting a unique and innovative blend of opera, classical music, music theatre, cabaret and comedy

A full day accompanied Technical Tour has been arranged for Wednesday 23 June including inspection of the East Arm Port, Elizabeth River Bridge, Berrima yards and facilities, civil and signalling works south to Adelaide River.

So if you have not done so already, now is the time to fill out your registration form and fax or mail it through to the Conference Secretariat as soon as possible.

KEY RTSA CHAPTER COMMITTEE CONTACTS

Rob Schweiger	8238 3412	Chairman
George Erdos	8218 2209	Treasurer
Roger Wyatt	8344 6939	Secretary
Malcolm Menadue	8270 2873	N/L despatch
Max Michell	8390 3300	N/L Editor

Articles or editorial comment for Newsletter are very welcome. We have over 100 members locally some of whom must have stories, events or developments of interest that could be reported in 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.

Send copy to the Editor, Max Michell at samrom@bigpond.com or fax to 08 8390 3772

Electronic despatch of Newsletter is undertaken by Malcolm Menadue – contact Malcolm on mmenadue@ozemail.com.au if you have any problems receiving Newsletter electronically or in hard copy. Note that electronic subscribers will get their Newsletters and flyers as soon as the editorial stuff is done, while the hard copy mail will of course be some days slower.

For all other matters relating to RTSA SA Chapter contact Roger Wyatt (the Hon Secretary) at e-mail januseng@chariot.net.au or on phone 8344 6939.