

# RTSA NSW CHAPTER NEWSLETTER

NOVEMBER 2010 EDITION

NEXT MEETING



## REBIRTH OF A LEGEND - 3801

Craig Mackey (NSWRTM) and Chris Hoskin (Halcrow)



3801, arguably the most recognisable locomotive in the country, is going through a major rebuild that will allow it to continue in heritage service well into the 21<sup>st</sup> Century. One of the most important aspects of 3801's rebirth is the construction, in Germany, of a new boiler – which of course brings all sorts of 'conflicts into play. Imperial designs in a metric era, contemporary boiler standards and construction techniques compared to the original build and so on - it is not an easy or simple matter to keep heritage machinery operational in the 'new' world.

Craig and Chris will give us an insight into the issues and solutions that have had to be developed as part of this fascinating project.

### TECHNICAL PRESENTATION

#### VENUE:

Central Station  
Meeting Room  
(Opposite Platform 2,  
Beside Lost Property)

#### DATE:

Wednesday 1<sup>st</sup> December  
2010

#### TIME:

11.30am (for noon start)

*LIGHT REFRESHMENTS  
WILL BE PROVIDED*

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## WORDS FROM THE CHAIR – KATHARINA GERSTMANN

We are close to the end of the year where so much has happened and the RTSA has grown to include 1345 members from different backgrounds and disciplines of the Rail Industry. We look forward to more growth in membership as well as growth in visibility and reputation in order to add value to our members and to the Rail Industry in 2011.

It's been a long and eventful winter and I don't know about you but I am looking forward to a slow down in the schedule of meetings, conferences and career expos and the pace of our daily business lives.

Over the last few months I had the opportunity to see latest industry information and railway technology, beginning with Core2010 in New Zealand, followed by Innotrans in Germany, back to Sydney via Singapore's award winning metro system and now at TasRail in Launceston. The local rail sectors couldn't have been more different...What they all have in common? A highly dedicated team of rail technicians, engineers and professionals dealing daily with all sorts of problems to ensure passengers and clients have access to rail transport.

And I really hope to get TasRail's Corporate Relation Manager on board to share some of their stories and pictures with you in one of our newsletters earlier next year.

Looking forward, we've started preparing an exciting line up of technical meetings and the High Speed Study Tour in May (more details in this newsletter). I'm also excited about the plans which are now underway for our new website. RTSA decided to take a new direction online in response to our member survey. After a serious look at our website, we chose to build a new one that will work harder for members and the committee.

And finally, with this last newsletter for 2010, on behalf of the RTSA NSW committee, I wish you a happy holiday season, if you're travelling drive safely and let's start the New Year with the enthusiasm we had at the beginning of 2010.

See you in 2011.

Katharina Gerstmann  
Chair – NSW Chapter

## POINT OF VIEW – MAX MICHELL

The recent Federal Election, perhaps rather surprisingly, produced a couple of rail related promises that can only be classified in the visionary category. The first was to do with an Inland Route between Melbourne and Brisbane, where both major parties managed, in a bit of Bib and Bubbling, to more or less agree to go ahead on such a line, albeit not in the life of the current Parliament. The second was to go ahead with yet another study into an East Coast high speed railway – a TGV or Shinkansen type thing. The high speed railway was the subject of Andrew Honan's Editorial last month

and a follow up Letter to the Editor this month, however the Inland Route proposal also deserves some comment

The Inland Route concept has been around for several decades, although it is only in the last 15 years or so, since the Newell Highway became a potent competitive force, that much notice has been taken of the need for this line. In its simplest form the Inland Route would cross the Dividing Range north of Melbourne (presumably on the route now occupied by the V/Line North Eastern line) and would then follow through fairly

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benign but productive terrain to the back of Toowoomba where it would again have to cross the Dividing Range to reach Brisbane. Apart from the 250 km or so required to cross the Diving Range at two places the remaining 1360 km could be built to a high standard with easy grades and wide radius curves. In a number of places existing rail alignments would provide a suitable route, while in others new alignments should be provided.

The base line for an Inland Route is the existing rail route through Sydney. This route is an aggregation of branch lines and mainlines which follow a rather extended and tedious alignment of 1900 km, with 200 km of that distance inside the Sydney cordon where competition with extensive passenger services has long been the bane of freight service reliability and quality. Even when the existing catch up and improvement works on the East Coast have been completed the line will still be 1900 km, still retain almost all of the awful alignments, still have to compete with passenger services through Sydney for 150 km and still take a lot longer, even under ideal conditions, than is consistently provided by trucking via either the Newell or the Hume / Pacific Highways. The fact that rail market share on the Melbourne – Brisbane corridor is now less than 20%, while market share on the shorter Melbourne – Sydney – Brisbane corridors is single digit and probably falling should be a wakeup call that something better than band-aids is required. The fact that two major rail operators between them, running on the Brisbane route, have gaps between freight successive trains up to 36 hours while a thousand or more heavy road trucks come and go is indicative of the near irrelevance of rail on the East Coast. Predictions of a turnaround in rail's fortunes on the East Coast have been around for decades (in fact ever since the declining fortunes were recognised) but so far there has been no respite.

Current work by ARTC will improve the route to some degree but will really only allow marginal improvements of any consequence. Curfews through Sydney are a major factor in this, which will in part be resolved when the everlasting saga of the Southern Sydney Freight Line (SSFL) comes to a belated conclusion. Northern curfews will remain and now we are informed that a

resolution of that issue (a NSFL?) will cost a staggering \$7.9 billion (NSW Government submission to Infrastructure Australia – Aug 2010). Even this vast sum will not result in much time saving – it is more about providing freight capacity over the 6 – 8 hours of curfew period and, dare it be said, to provide additional passenger capacity for the commuters. In the end no amount of work on the existing route will ever allow a truly quantum improvement in rail, and even the NSFL will cost much more than a premium grade Inland Route. ARTC itself estimates that their Inland Route would cost \$4.7 billion, while a Premium version would cost an estimated \$5.3 billion, which rather puts the NSFL proposals from the NSW Government in a different light.

The recent ARTC study of the Inland Route highlighted a conundrum in this project. Their Stage 1 attempt at a route largely followed existing main and cross country lines with new construction basically limited to the Queensland section. The line length and train performance was barely capable of bettering the coastal route (after current improvements are complete) in which case the provision of such a route was hardly relevant – more like 19<sup>th</sup> century thinking than 21<sup>st</sup> century. Following a round of discussions (I must declare an interest at this point, since i was involved) the final proposed route was much smarter – 170 km shorter and considerably faster, making use of existing lines to a large degree as far north as Parkes then following a relatively direct route through to Queensland. But was this the 'optimum' route – the visionary route that would truly be 21<sup>st</sup> century and be sustainable way into the future despite inevitable highway upgrades and aggressive technological advances of trucking?

The simple answer is no! A route can be postulated that is just over 1600 km long (300 km shorter), would allow Superfreighter type freight trains to cover the journey in 18 – 19 hours, 2 - 3 hours faster than the ARTC proposed route. Why would this matter you may ask? The simple reduction of a couple of hours would allow rolling stock utilisation to be considerably improved – to a 48 hour cycle time compared to the existing 96 hour cycle via the coastal route and 72 hour via the ARTC proposed route. Either half the number of trains for the existing task or twice the capacity with the existing fleet

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is a significant productivity gain, while at the same time being quite competitive with trucking times. Faster transits would also provide higher capacity within any given time frame thus enhancing another aspect of the 'premium' Inland Route as compared to the one proposed. A significant gain in reliability (as perceived by the customer) would combine to increase rail's market share, in a rapidly rising market, from its current paltry level to something in the order of 70% – 80%. If you think this is implausible then go see the East West corridor, which even with its current rather ordinary infrastructure is capturing around 80% of the competitive land freight and over 60 % of all freight to and from Western Australia. If the Inland Route existed and provided a premium service that attracted the entire Victoria – Queensland freight off the coastal route there would be less pressure on the Sydney area which would allow more rational and affordable solutions for freight through the passenger curfew area.

Convention within the logistics industry is that reliable second morning delivery is the expectation for the Melbourne – Brisbane route so rail would be right up there, with a reasonably wide bandwidth of departure and arrival times to meet this expectation. A side issue with a Premium route is the prospect of a totally new traffic. A high speed Courier type freight train (a freight XPT) could achieve a terminal to terminal time of 12 -14

hours which would allow first day deliveries through purpose built high efficiency terminals. Express Freight practitioners are hardly enthusiastic about such a proposition, but you would expect that from organisations which have a fair degree of market control under the existing situation. But such a change in the land transport paradigm on the East Coast would have a marked impact which can only be to the advantage of rail (as well as the sender and receivers of freight)

Charles Darwin wrote that "It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change". Palpably rail has been very unresponsive to change in the recent past, at least on the East Coast where some of the least change, risk averse, railways made their home. There is no point in perpetuating the past, even with some ornamentation, but rather we should be looking to an Inland Route that will stand as a viable concern well beyond the medium term forecasting period – we should be making a quantum leap from a stoic past into a visionary future. Anything less will be a waste of money. The Inland Route proposed in the ARTC report is at best a lukewarm result, better than its first attempt but well short of a truly visionary outcome. We need more of the visionary and less of the lukewarm if we are to reverse fortunes of freight rail on the east coast.

## LETTERS TO THE EDITOR

After many months of resounding silence we have received a letter from one of our members, who for his own good reasons wishes to be known by his alternate 'writing' name. The letter is rather longer than normally would be accepted, but given the lack of competition in the Letters to the Editor space it seemed prudent to let it go in more or less as received. So here is the letter from Spion Scouse -

Last month's RTSA article on HSR created a discussion in our workplace and I suggest some further ideas

For any HSR network to be successful it must involve the States, the ACT as well as the Commonwealth. It has to offer benefits for the regions, States / ACT as well as the nation as a whole. These benefits necessarily

involve a strategy and commitment in the regions and cities to more passenger rail connectivity (and to a lesser degree road) to HSR terminals. Furthermore there has some activism to passenger transport links and markets around HSR hubs. All this without undermining the end-to-end passenger markets. The design of the HSR must integrate state-based policies

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on regional rail / road transport and regional planning for corridor preservation.

Some jurisdictions are well on the way. Victoria for example, continues to develop a regional fast rail system, (to the initial chagrin of free market capitalists). Victorians now use the success of regional rail as the foundation for further expansion in rail. Both political parties in Victoria now promote more investments in passenger rail. This was not the case just a few short years ago at the beginning of RFR; something to be mindful of in the HSR debate. Similar 'doubters' existed with the initial Perth rail system and the recent Perth - Mandurah line. Both of these are now outstanding pieces of infrastructure, supporting regional and city economies and communities. They are classic success stories.

Queensland also has a strong south-east infrastructure planning strategy.

Last month's RTSA article advocated:

Stage 1 Newcastle - Sydney passenger rail service starting with express rail (up to 250 km/hr) rather than high speed (350km/h)

Stage 2 Sydney - Canberra passenger rail service starting with express rail (up to 250 km/hr)

Stage 3-A Extending express rail from Newcastle to Coffs Harbour (up to 250 km/hr)

Stage 3-B Extending express rail from Canberra to Wagga Wagga (up to 250 km/hr)

Stage 4 Completing the rail infrastructure from Wagga Wagga to Melbourne and operating trains from Sydney - Canberra- Melbourne at high speed (350km/h plus)

Stage 5 Completing the rail infrastructure from Coffs Harbour to Brisbane and operating trains from Sydney all the way

to Brisbane at high speed (350km/h plus)

I would change Stage 3-A. Undertaken in conjunction with the Victorian Government, Stage 3-A would involve developing the proposed OMR/E6 (outer metropolitan Road) corridor for both HSR and rail freight from Craigieburn to Tullamarine and then onto Deer Park. The HSR alignment would then follow the regional rail corridor from Deer Park into Sunshine (on separate standard gauge, AC electrification), then dual gauge (and AC electrified) regional rail lines from Footscray into Southern Cross Station Platforms 1&2.

Heading north of Craigieburn, the rail corridor would use the North East rail alignment to Seymour and then a new shared standard gauge interstate rail freight and regional rail passenger service to Shepparton with freight ongoing to Narrandera and Temora. Stage 3-A would see the HSR line continue on the North East rail alignment from Seymour to Albury (although initially operating at 250km/hr).

This would provide regional rail access from the North of Victoria (Shepparton and Albury) into Melbourne, as well as laying the foundations for the Inland Rail route. The HSR line at Albury would eventually connect up to the line extending south from the ACT, and then operate at 350km/hr. This network of regional rail lines would provide regional development opportunities throughout Victoria.

Similarly Stage 3-B would be changed. In conjunction with the Queensland Government, the HSR line would start at the Gold Coast (with corridor preservation into Brisbane proper) and head south to Murwillumbah and Byron Bay (initially at speeds 250 km/hr). This would support growth in this area and open up rail access to the north coast of NSW, (connecting Gold Coast and Brisbane airports by rail). Eventually Newcastle would be connected with Byron Bay and the Gold Coast with speeds up to 350 km/hr.

Both Stage 3-A and Stage 3-B help establish the Inland Rail route for freight. This route provides flat (excepting over Toowoomba Main Range) and direct rail services

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between Melbourne and Brisbane. This direct route provides huge fuel and operating efficiencies for Melbourne -Brisbane transport, and will be a lasting legacy for future generations. Like the world renown heavy haul operations in the Pilbara, this line has the prospect of being a world class operation.

As part of the access in to the ACT, serious consideration should be given to maintaining the general alignment via Bungendore, the Molonglo Gorge into Queanbeyan, Kingston then out on a new alignment across Dairy Flat Bridge to Canberra Airport, around Mount Ainslie to Dickson, Hall then onto Wagga Wagga/Albury. Although the alignment along the Molonglo Gorge is challenging, the development and access opportunities coming into Queanbeyan are significant. Population development in this border town is significant as well as access to the southern suburbs of the ACT. There is also the prospect of reopening a

fast regional rail service from Canberra/Queanbeyan to Cooma and the snowfields (and road access to Bega and the far south coast on NSW), providing good travel times to Canberra and Sydney for these regional areas.

By providing multiple (and early) levels of benefits (both state-based / regional and national benefits) that leverage off existing patterns of settlement and emerging strategies, and seeking multi-jurisdictional funding, offers the prospect that HSR has a higher probability of success than a stand-alone proposal.

The challenge is that much like in the 1970's when the national highway plans were developed, the States, ACT and the Commonwealth all have to jointly commit to rail as a vision and also to a rail plan.

Some jurisdictions are further ahead than others, but nonetheless the time will come when rail benefits will be fully exploited.

## COMING EVENTS

### HIGH SPEED STUDY TOUR

This tour, set for May 2011, is intended to provide participants with a overview of High Speed Rail developments in Asia, notably in Japan, Korea and Taiwan. The main emphasis will be on Japan, which is where the first (and for a couple of decades the only) high speed rail eventuated. Taiwan has adopted Japanese technology while Korea adopted French technology, although they are now heading towards their own indigenous High Speed Train.

Interested members will have indicated their interest via the EOI process launched at CORE 2010 in Wellington, but if for some reason that has been overlooked then do it now before it is too late.

This tour is being particularly targeted at young engineers – the people who will be involved when (if) a high speed railway is built in Australia. A very generous discount on the tour cost is being negotiated so that young engineers will be more easily able to participate.

This STORE will be two weeks long and will involve a less demanding schedule than the 2009 Metro Study Tour. There will be some 'rest' days (or 'do as you want' days depending on your outlook) and the opportunity to take a full package from Australia or to only do the tour in Asia with 'best fare' connections from Australia – the latter is intended to allow extensions beyond the formal tour in Japan for those so inclined.

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## NEW MEMBERS

This month we would like to welcome the following new members to the NSW Chapter:

### Corporate Members

Hyder Consulting Pty Ltd



### Individual Members

Orlando Achterberg, RailCorp  
Dusko Bajic, AbiGroup  
John Cornell, DownerEDi Works  
Mark Jones, McArthur  
Aung Kyaw Lwin  
Grant Mete, DownerEDi Works  
Blanche Sewell, McArthur  
Krste Taseski, Hyder Consulting  
Paul Tobin, GHD  
Clare Louise Wilson, Plateway  
Jim Yang, Hyder Consulting

## NOVEMBER MEETING – REPORTER: MALCOLM CLUETT

### AUTOMATIC TRAIN PROTECTION (ATP) Craig Stanfield, Programme Manager, Automatic Train Protection, RailCorp

#### RailCorp's Business Need

- To reduce the level of risk due to overspeeding and SPADs
- To enable infrastructure packages that can increase line capacity
- To allow line speeds to be governed by civil-engineering, rather than signalling constraints
- To reduce costs and increase reliability through removal of infrastructure.
- To address a major recommendation of the Special Commission of Inquiry into the Waterfall accident.

The Business Case was justified on the following grounds:

- Less fatalities
- Removal of train stops and tripgear and associated maintenance. (There are 3160

train stops and 841 tripgears to be removed.)

- Capital expenditure for fitting a further 255 train stops at signals currently unfitted (outside the metro area) can be avoided.
- Less driver-caused SPADs
- Reduced passenger delays due to a reduction in minor and major accidents
- Reduced bussing costs due to minor and major accidents
- Avoided property damage due to less minor and major accidents.
- Provision of additional trains per hours in the peak on certain lines, increasing frequencies and reducing overcrowding
- Reduced journey times on certain lines, and increased market share for rail.

ATP is a generic term used to describe a range of technology-based train protection systems. Computers are used to control train movements in the event of driver error involving speed or braking.

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It is not an Automatic Train Operation (ATO) or Automatic Train Control (ATC) system.

ETCS (European Train Control System) is one ATP system of many on the market. ATP is designed to operating in the background. It will only be activated if the driver makes an error.

ETCS has an Open System architecture. There are six main suppliers of ETCS hardware (who contributed to its development);

- Alstom
- Ansaldo STS
- Invensys
- Thales
- Siemens
- Bombardier

Thus there is competition in the production of the hardware, which is inter-operable, available off-the-shelf and to a Published Specification. Not all suppliers supply the full range of products. RailCorp may end up with multiple suppliers.

Increasingly, ETCS is being adopted outside of Europe. The speaker showed a slide with the number of kilometres of active ATP trackage, and the number of cabs fitted. Obvious omissions at this time are Australia, North America and South America. (19,000km in Europe and 18,000km elsewhere) The fact that such a large number of installations are operating demonstrates that support will be available. RailCorp won't be the guinea pig.

Balises are radio beacons mounted in the four-foot. They are used in pairs so that the direction of travel can be determined as the train passes overhead. One of the balises is connected to the signalling system. There is a powered antenna underneath the trains, which interrogates the balises as the train passes overhead. They are yellow in colour, and about the size of an A4 sheet.

ETCS can be overlaid onto RailCorp's existing signalling system. The system can be rolled out progressively and upgraded, using equipment from any of the suppliers.

It can be upgradeable to higher levels when the fleet is fitted out.

There are three levels of ETCS, viz 1, 2 & 3.

**ETCS Level 1** is an Overlay, with lineside signals retained. Train Stops are also retained. Lineside Electronics Units (LEU) transmit data by means of Balises (installed in the four-foot) to the train allowing the driver to see the maximum speed possible on the in-cab display. Train can be halted if over-speeding, or travelling beyond its authority.

The maximum speed and braking curve is constantly updated.

Infill balises can be used so that the spot-transfer of data to the train is more frequent.

The so-called Euro-Loop cables allow continuous updating of data whenever a train is passing overhead. The on-board computer continuously calculates the train's maximum speed and braking curve.

**ETCS Level 2** Lineside signals can be removed, and the driver relies on the in-cab display. Reliance is placed on GSM-R digital radio communications. All trains continuously report their direction of travel and location by means of GSM radio. Some track hardware for functions like detecting train integrity must be retained. Data is continuously transmitted to the train relating to its movement authority and allowable speed.

Under ETCS Level 2, the balises are of secondary importance, and are used as electronic milestones for the trains (allowing the on-board odometer to be updated and recalibrated as each balise is passed).

Again, the on-board computer continuously calculates the maximum allowable speed and braking curve.

**ETCS Level 3** is yet to be implemented anywhere in the world. (Goes beyond Train Protection and uses radio to determine train spacing. It is related to moving-block signalling. Track circuits are not used, though Balises are still used for determination of location.)

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**ATP example** – A diagram was displayed of a typical signal with a trip and an overlap. The use of ATP allows the train to have its speed regulated on approach to the signal. Thus there is the scope to reduce the overlap distance.

ATP will reduce the incidence of signals passed at danger (SPAD), but will not eliminate them.

**EuroLoop**- this is an alternative device to a Balise, and allows coverage over a certain distance, rather than at a spot. A loop of cable for transmitting data is laid along the foot or the rail. It therefore allows updates as the train proceeds along the track. It is not planned to be used by RailCorp, however.

**Driver-Machine Interface (DMI)** is the term for the in-cab display from the on-board computer. RailCorp will undertake Human Factors testing on the DMI at the Petersham Training College.

There is the risk of too much information being provided to the driver, both from within the cab and without. (Under ATP level 1, the driver's primary objective is to be observing signals and conditions outside the cab).

**European Vital Computer (EVC)** is the name of the on-board computing unit. This is the heart of the ATP system.

**Juridical Support Unit (JRU)**, which is an event-recording unit.

RailCorp will be purchasing a combined JRU and Data Logger unit for its fleet.

When a speed board is passed – the speed profile as calculated by the computer also changes.

Various signalling scenarios were demonstrated by the speaker, in a series of slides.

The maximum speed curve is calculated and re-calculated as each Balise is passed.

The advantages of infill balises were demonstrated. These are located between signals.

Information in the EVC can't be updated until another Balise is crossed under ETCS Level 1.

The concept of Release Speeds was demonstrated. (ie, the train does not need to come to a standstill after information from an infill balise is obtained (demonstrating that the preceding train has moved on and that signal indications have changed.) Release speeds are higher for large overlaps.

RailCorp has a computer model to look at optimum locations for infill balises,

Existing Train stops - do not take into account over-speeding trains (like Waterfall) which will run overlap distances. Release speed is governed by the overlap. The emergency brake will be applied if the train speed is over the release speed.

## Implementation

A slide with the historical time line for ATP in the RailCorp context was shown.

Events commenced with the 2003 Waterfall accident. The Report of the Special Commission of Enquiry recommended that ATP should be implemented in a reasonable amount of time. The report was released in January 2005,

In April 2008, a trial programme in the Blue Mountains was completed. This involved three test sites, with different suppliers, and three V-set trains with test equipment.

NSW Cabinet "in principle" approval for ATP implementation in July 2009.

Tenders called in September 2010 and closed in November 2010.

It is planned to award contracts for initial ETCS supply packages in January 2011.

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Aim to have ATP-fitted OSCARS operating first in passenger service (Gosford – Wyong leg)

The ATP programme for the entire RailCorp network will be rolled out in three packages, with some sections of the network covered by existing resignalling projects.

The speaker displayed slides showing which areas are covered by which package.

For Package One, the scope is as follows:

- 1500 signals,
- 600km of track
- 98 Oscar cabs
- 225 Tangara cabs

RailCorp needs to build capability by increasing utilisation and training of current and future RailCorp employees. There will be a recruiting programme in the near future for the ATP team.

## Q&A

Q Freight Trains and ATP

A Freight locomotives will not initially be fitted with ATP equipment. Some investigation work is being undertaken at ARTC.

This involves inertial navigation and GPS-based systems. Interoperability is a major objective. NB Locomotive are double-crewed in NSW, and this gets around the problem of such trains not being ATP-compliant. At present locomotives are not fitted with tripgear.

Q Do we need to live with bigger signalling overlap distances due to freight trains running on the system ?

A Freight trains don't run on the critical areas. (Inner west, City Circle, North Shore). Extra benefits in signalling layouts can be obtained on passenger-only lines which do not have freight trains running.

Question relating to a failed lineside signal under ATP, and the proceed authority

A Train drivers will follow rules as they do now.

Q Potential Human Factors problem - what happens when wayside signal indication and the proceed authority are conflicting ?

A Drivers will be told to continue looking outside the cab as the primary driving mode.

Q Liverpool – Campbelltown in the late 1980s – Balises were installed, in conjunction with some rolling stock and a locomotive for test purposes.

A A lot has happened to the technology since that 1980s trial.

Question relating to the Glenbrook accident.

A At the time there were no train stops in the non-metro area. Some are now installed in critical places. One of the benefits of ATP is that train stops will not need to be rolled out to numerous locations.

Q Euroloop – Why not adopted by RailCorp ?

A Not supported by all suppliers. Radio infill in future may make this technology obsolete.

Q Effect on On Time Running ?

A OTR running improvement expected under ATP (6 sec to 8 sec).

Q Capacity for energy management under ATP. Has it been considered ?

A No. There are other more complex systems for energy management. Under ETCS there are no energy savings unless incidental.

Q Why are V sets left out of

A V sets are being scrapped during the implementation plan.

Q Provision of onboard equipment in OSCARS.

A No – desirable but too late in the procurement process. (ie, cabinet space)

Q Fitment to Rail Corp's own freight rolling stock (ballast trains) ?

A Not considered.

Q Waratahs – not ATP ready ?

A Correct. (Due to commercial constraints.)

Q Transition as fleet is progressively fitted ?

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A Train stops need to be retained until the last unfitted train is withdrawn from traffic.

Q Temporary speed restrictions.

A Yes, compatible with ATP. Temporary units are available. Also for work site protection.

Q Damage to Balises.

A Balises are bolted securely to the track. System can still operate with the loss of one balise at each site. There is currently some level of vandalism to train stops.

Q Is the train weight taken into account (loaded vs empty, etc).

A yes.

Q Wet weather braking curves.

A Driver has the ability to key in a reduced braking effort on the train before it enters the network (say, if the brakes were cut out on a defective carriage).

Q Odometer error.

A 5% allowed. Next balise will reset the odometer reading to zero and recalibrates. There is a radar unit on the train.

Q Coupling and uncoupling. Approach to a platform with a standing train.

A ATP has provision for Shunting modes (25 km/h max) when trains are not protected by fixed signals. ATP won't help in these circumstances.

Q Basic Braking curve.

A This is the Wet Weather Curve (ie, worst case).

Q OSCAR onboard cupboard space.

A ETCS Level 1 provision OK.

Depending on the suppliers, there is insufficient ETCS 2 space. The future Digital train radio hardware is another item that will be competing for the required onboard space.

Craig was thanked for giving time out of his very busy schedule, and was given the best wishes for his work in a high-profile and politically charged arena. Tenders closed a few days after the presentation.

**Reviewers Note** – there is an interesting and easy-to-understand description of ETCS technology in the Wikipedia, along with links for further reading.

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# RTSA NSW CHAPTER NEWSLETTER

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## FUTURE MEETINGS AND EVENTS

The meeting program for 2011 has yet to be finalised, however the dates and place have been set. From February 2011, for the rest of the year, there will be the usual lunch time meeting at the Central Station Meeting Room on the first Wednesday of each month.

The first meeting will be on Wed February 2<sup>nd</sup>, followed by March 2<sup>nd</sup>, April 6<sup>th</sup>, May 4<sup>th</sup> and June 1<sup>st</sup>. The topic for February will be advised in the January Newsletter, along with the program for the following few months.

Any member with ideas for meeting topics should contact the Secretary, John Watsford, in the first instance – contact details on the back page of this Newsletter

Engineers Australia members are reminded that attendance at RTSA technical meetings contributes towards CPD requirements. Each RTSA technical meeting generally has a value of 1 CPD point.

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