IRSE INSTITUTION OF RAILWAY SIGNAL ENGINEERS AUSTRALASIA

# Institution of Railway Signal Engineers

## Local Joint Meeting - ADELAIDE

### Thursday 7 September 2017

**Time:** 5:45pm for a 6:00pm start

**Venue:** Fedora's Restaurant
Hilton Hotel, Corner South Road & Sir Donald Bradman Drive, Hilton SA 5033

## Programme

| | |
|---|---|
| **6:00pm** | **Meeting Opening** |
| **6:05pm** | **Axle Counter Communications – Spencer Junction to Tarcoola** |
| | **Raneesh Gulawita AMIRSE** |
| | Graduate Signalling Design Engineer |
| | Australian Rail Track Corporation |
| **6:45pm** | **Signalling System Safety is NOT an Absolute** |
| | **Trevor Moore HonFIRSE** |
| | Signalling Standards Engineer |
| | Australian Rail Track Corporation |
| 7:30pm | Meeting Conclusion |
| 7:40pm | Cocktail Meal & Refreshments |
| 8:45pm | Close |

## Joint Meeting

**IRSE** SA Division

**RTSA** SA Chapter

**PWI** SA Section

## RSVP

To assist with venue setup and catering, please RSVP to Malcolm Menadue by 4 September 2017


Contacts: Email: malcolm.menadue@irse.org.au
Phone: 08 8370 7004
Mobile/SMS: 0418 827 126


## Cost – Free for Members and Visitors

Meeting Sponsored By:

ARTC

RTAA est.1973

Rail Industry Constructions

LOCKHEED MARTIN

SIEMENS Ingenuity for life

IRSE INSTITUTION OF RAILWAY SIGNAL ENGINEERS AUSTRALASIA

# Institution of Railway Signal Engineers

## Raneesh Gulawita

B.Sc (Eng) (Hons), MIEAust, AMIRSE

Graduate Signal Design Engineer, Australian Rail Track Corporation

Raneesh graduated with an Engineering degree from the University of Moratuwa at Sri Lanka in 2004. He is a Member of Engineers Australia and an Associate Member of the Institution of Railway Signal Engineers.

He began his career in Sri Lanka as a risk management engineer in the insurance field and then moved to a project management role in the building construction industry. He moved to Australia in 2008 and started work with ARTC Services Company in 2009, in the role of Project Support Officer in the signal design team. He was involved in various level crossing upgrade projects, loop extension projects and the introduction of CTC between Spencer Junction and Tarcoola.

In 2016 he was appointed as a Graduate Signal Design Engineer at Australian Rail Track Corporation (ARTC). Over the last 7 years he has been involved in various activities of the railway signal design, testing and commissioning processes.

### Axle Counter Communications – Spencer Junction to Tarcoola

Since the installation of the Frauscher FAdC Axle Counters between Spencer Junction and Tarcoola, ARTC had experienced intermittent failures of some of the block sections. The nominated communications link for the project between the intermediate signal locations and the adjacent crossing loops, and Coondambo Loop was the Telstra Next G Data Network.

These intermittent Next G data dropouts, although for short periods, caused the axle counter tracks to dropout, resulting in signals reverting to stop. This had the potential to cause SPADs (Signal Passed at Danger) and often required an axle counter reset from Mile End Train Control.

Due to the above reasons the communications link for these locations was changed from the Telstra Next G Data Network to a dedicated Radio Link in August 2015. This presentation will discuss the benefits and the issues of this system.

## Trevor Moore

Trevor Moore commenced as a Trainee Electrical Engineer with the Signals and Telegraph Branch of the NSW Government Railways in 1972. Upon graduation he was appointed as a signal engineer in the then Public Transport Commission of NSW in 1976. This became the State Rail Authority (SRA) and he worked in the Technical Sections, Signal Design Office, Signal Development Section and Signal Renewal & Modernisation Program. This work included the implementation of the first computer based interlocking on the SRA and installation of telemetry systems for remote control and the design of signalling across a number of locations.

In 1996 Trevor left SRA and was Director of Endeavour Management & Engineering Pty Ltd. He worked on projects including Electrical SCADA, Train Reservation System (Y2K), Fibre Optic Cable Network for 300 stations on SRA, CCTV for Sydney Metro and Train Operations Management System for outer Sydney signal boxes including the Granville to Mt Victoria line.

# Institution of Railway Signal Engineers

In 2004 he joined Australian Rail Track Corporation (ARTC) as the Signalling Standards Engineer. Trevor has led a team that has drafted 50 signalling standards that apply to the whole ARTC network and is continuing to update state based legacy standards. Trevor is the Chairman of the Rail Industry Safety & Standards Board – Train Control Systems Standing Committee. This deals with the drafting and review of Australian Standards for Railway Signalling and Control Systems.

## Signalling System Safety is NOT an Absolute

We often design a signalling system and continue its operation even though there are significant changes in train operating conditions. Do we assume that is still as safe as the day it was commissioned into service?

Some cases are self-evident that safety has changed. If we increase the train speed over a level crossing we know that the approach warnings have to be reviewed and updated. Do we check and update if they have changed the road traffic classification to B double trucks?

When and how should we review the signalling system for safety of operations? What should be the catalyst to undertaking a review? Should this be part of the standard practice for signal engineers managing infrastructure and for signal designers on new works?

The paper addresses some of the situations that can arise leading to a change in the safety of the signalling system.