

# SOMERSAULT

MARCH 2020

VOL 43, No 2

SIGNALLING RECORD SOCIETY OF VICTORIA



## SOCIETY CONTACT INFORMATION

Published by the Signalling Record Society Victoria Inc (A0024029F)

EDITOR: Andrew Waugh, 28 Amelia St McKinnon, VIC, 3204

Phone (03) 9578 2867 (AH), (03) 9348 5724 (BH), email andrew.waugh@gmail.com

PRESIDENT: David Langley, P.O. Box 8, Avenel, VIC, 3664, Phone (03) 5796 2337

SECRETARY and MEMBERSHIP OFFICER: Glenn Cumming,

Unit 1/4-6 Keogh St, Burwood, VIC 3125. Phone (03) 9808 0649 (AH)

NSW CONTACT: Bob Taaffe, 63 Hillcrest Rd, Tolmans Hill, TAS, 7007, Phone: (03) 6223 1626

QUEENSLAND CONTACT: Phil Barker

PO Box 326, Samford, QLD, 4520, Phone: 0400 334403, email: signal01@bigpond.net.au

Unless articles use copyrighted information, articles may be reprinted without prior permission but acknowledgment is required. Opinions expressed in articles appearing in SOMERSAULT or supplements are not necessarily those of the S.R.S.V. (Inc.)

Unfortunately, the minutes of the July 2019 have not been published. They are included below.

### MINUTES OF MEETING HELD FRIDAY 19 JULY 2019, AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS, VICTORIA

Present: – Noel Bamford, Glenn Cumming, Graeme Dunn, Michael Formaini, Chris Gordon, Judy Gordon, Bill Johnston, David Jones, Chris King, Keith Lambert, David Langberg, David Langley, Neil Lewis, Andrew McLean, Michael Menzies, Phillip Miller, Laurie Savage, James Sinclair, Roderick Smith, David Stosser, Stuart Turnbull and Andrew Wheatland.

Apologies: – Trevor Penn, Colin Rutledge, Brian Sherry and Peter Silva.

Visitor: – Andrew (Roo) Richards.

The President Mr. David Langley, took the chair & opened the meeting at 20:05 hours (8.05 pm).

Minutes of the May 2019 Meeting: – Accepted as read. Phillip Miller / Andrew Wheatland. Carried.

Business Arising: – Phillip Miller advised that the works at Elsternwick had been completed however indications are not provided at Metrol.

Phillip Miller advised that overhead has now been installed at Kananook and other works are continuing.

Correspondence: – The invoice for the public liability insurance was received and payment has been sent.

Letter to James Sinclair welcoming him to membership of the SRSV.

Laurie Savage / Bill Johnston. Carried.

Reports: – Incorporation. Glenn Cumming advised that new rules adopted at the May 2019 Special General Meeting have been sent to Consumer Affairs Victoria for approval.

Tours. Planned arrangements for the Signal Box tour in September 2019 were discussed.

General Business: – David Stosser advised that the signal control panel had been removed from the Oakleigh station building. It is rumoured that it has been given to the ARHS museum. Is this correct?

Keith Lambert provided details about various works in the Metropolitan District. A summary of the discussion follows: –

- Darling Signal Box has been abolished and is now worked by remote control from Metrol.
- It has been proposed that Upfield Signal Box will be operated by remote control from Metrol.
- Further details about arrangements at Elsternwick were provided.
- Carrum Signal Box will be abolished tonight.
- A seven (7) day occupation between Mordialloc – Stony Point commences tonight. At the completion of this occupation the train stabling sidings at Kananook will be available for use.

*(Front cover). The grade separation work on the Frankston line, together with the salt laden sea air, is seeing the demise of the RM1 colour light signals between Mordialloc and Frankston. Installed in 1976/7 when automatic signals replaced block working, the signals used Westinghouse Style RM1 modular heads. These comprised individual circular lamp units mounted on the sighting board. To ensure sufficient rigidity, the sighting board was heavily reinforced by rectangle of angle iron. This head would have been much lighter and probably cheaper than the older cast iron Style R heads. The large boxes on the mast house the transformers and wire termination. This particular example is the Up Home signal at Chelsea and the photo was taken in January 2020.*

Laurie Savage recently noted baulks across the Brooklyn – Newport West Line at Thomas Mill at Newport and asked why was this?

Michael Menzies asked what was happening at North Geelong “C” Box? It was suggested that final commissioning is proposed for September 2019.

Rod Smith reported that level crossing removal works are in progress at Reservoir tonight as part of a 14 day occupation.

Chris Gordon described plans to provide crossovers at each end of the new Reservoir station to replace the crossovers at Bell.

Michael Menzies described recent signalling works at Swan Hill.

Rod Smith noted that gauge conversion works for the Sea Lake and Manangatang Lines as part of the Murray Basin Rail Project have been delayed.

David Stosser discussed plans for the Moreland – Coburg level crossing removal works. supply is still 25 Hz.

Keith Lambert noted that level crossing removal works at Cheltenham had commenced.

Syllabus Item: – The President introduced himself to present the Syllabus Item.

David displayed a collection of black and white images from his collection.

Amongst the many images that we viewed were the Bendigo Line and Bendigo in 1978, Adelaide and Mile End yards, narrow gauge in Alice Springs, Brisbane before electrification and nearly every signal box between Brisbane and Maitland.

At the completion of the Syllabus Item, the Vice-President thanked David for the entertainment & this was followed by acclamation from those present.

Meeting closed at 23:00 hours.

The next meeting will be on Friday 20 September, 2019 at the Surrey Hills Neighbourhood Centre, Bedford Avenue, Surrey Hill, commencing at 20:00 hours (8.00pm).

## MINUTES OF 2019 ANNUAL GENERAL MEETING HELD FRIDAY 15 MARCH 2019, AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS, VICTORIA

Present: – Glenn Cumming, Graeme Dunn, Michael Formaini, Ray Gomerski, Chris Gordon, Judy Gordon, Andrew Gostling, Bill Johnston, David Jones, Keith Lambert, David Langberg, Neil Lewis, Andrew McLean, Phillip Miller, Peter Silva, David Stosser and Stuart Turnbull.

Apologies: – Robert Bremner, Jon Churchward, Graeme Henderson, David Langley, Steve Malpass, Colin Rutledge, Laurie Savage, Rod Smith, Bob Taaffe, Andrew Waugh and Andrew Wheatland.

In the absence of the President, the Vice-President Mr. Bill Johnston, took the chair & opened the meeting at 20:07 hours.

Minutes of the March 2018 Annual General Meeting: – Accepted as published. Michael Formaini / Andrew McLean. Carried.

Business Arising: – Nil.

President's Report: – In the absence of the President, the Vice-President Bill Johnston presented the President's Report to the meeting.

Yet another year, yet another Annual Report. This has been a year of enormous change on the railway with the elimination of many level crossings either by lowering the railway, raising the railway or raising the road. We even opened a new section of railway to Mernda from South Morang. The inevitable march towards complete domination of the control of signalling by computers continues and a number of “proper” signal panels have been replaced. We also said goodbye to one of our long standing members – Wilfrid Brook.

Six meetings were held with the February meeting being a visit by 18 members to the Archive Rooms in Seymour, March was the A.G.M., May was “Railfanning in the 1970's” presented by Michael Formaini. In July we were severely taxed by Andrew McLean who presented a series of aerial images of Victorian railway junctions with the question – where are they? Then in September interstate member Graeme Henderson presented his research on The Rock illustrated by diagrams and photos, whilst one of our international members; Ken Ashman, presented an illustrated talk on timer relays and their use in railway signalling.

The Annual Tour saw members meeting on the platform at Frankston before we visited the mechanical frame at Frankston, and the panels at Carrum, Mordialloc and Cheltenham. We failed to visit the panel at Chelsea as the supplied key to the door didn't work. The Secretary was less than impressed as he missed the tour the last time we visited Chelsea where we were successful. Again I would like to thank Keith Lambert for his guidance on the day and the team at Metro who kindly permit us to visit these locations.

A society does not work by itself, a committee hard at work behind the scenes beavers away. To that end I wish to thank Glenn Cumming for his secretarial skills and also his tour organising for September, Peter Silva for managing the finances, Bill Johnston for organising the syllabus items throughout the year and also sitting in the President's chair when required, and Colin Rutledge and David Langberg as committee members although Colin seems to have settled into the role of Archive Convener quite nicely and David has spent considerable time in researching and acquiring on the societies behalf, a plan scanner for the Archives. Now the work really begins.

Finally I wish to thank the members for their continued support for the Signalling Record Society, continuing the aims of the society which started life all those years ago in the front room at 60 Kenmare Street. I haven't mentioned the Archives in this report as I'm sure a separate report will enlighten everyone to the progress.

I move the report.

David Langley President. Graeme Dunn / Michael Dunn. Carried.

Treasurer's Report: – The Treasurer, Peter Silva, presented the Treasurer's Report for the year ended 31 December 2018.

The financial statements for 2018 presented to the meeting showed Operating Surplus of \$770.75. There were no significant changes in operating costs during the year and none are currently foreseen for 2019.

Peter provided a detailed explanation of the financial statements.

Peter Silva / Stuart Turnbull. Carried.

There were no questions.

Tours Report: – The Tours Officer, Glenn Cumming, presented his report.

I am pleased to report that the SRSV conducted one signal box tour during 2018.

The tour for the year was held on Saturday 22 September 2018.

The locations visited this year were Frankston, Carrum, Mordialloc and Cheltenham.

A variety of signalling equipment was viewed and the signalmen at each location were friendly and co-operative.

It was planned to inspect the panel at Chelsea but unfortunately the keys for Chelsea kept at Frankston Signal Box would not open the door. It is believed that the locks had been changed as a result of the office at Chelsea now being used by Protective Services Officers.

As expected, this tour was well attended and this justified the effort required to arrange this tour. A number of SRSV members travelled from interstate to attend this tour.

Thanks to all members & friends who participated & helped to ensure the success of the tour. A pleasant day out was enjoyed by all.

Special thanks must go to David Ward, Keith Lambert and Chris Gordon at Metro Trains Melbourne for allowing the SRSV to visit areas not normally open to the general public. Their assistance is very much appreciated.

The Tours Officer always welcomes suggestions & comments regarding the conduct of SRSV tours, especially ideas for future tours.

Glenn Cumming Tours Officer. Glenn Cumming / Michael Formaini. Carried.

Membership Report: – The Membership Officer, Glenn Cumming, tabled the Membership Report.

<u>Type</u>	<u>2018</u>	<u>2017</u>	<u>Movement</u>
V	61	62	– 1
K	26	28	– 2
N	2	2	–
KL	2	2	–
VH	3	3	–
Total	94	97	– 3

Analysis of Movement

Additions: – Nil

Non – Renewals: – Peter Fisher (V), Alan Grundy (V), Ron Woods (K)

Transfers: – Rod Smith (K – V)

Glenn Cumming Membership Officer. Glenn Cumming / Peter Silva. Carried.

Editorial Report: – In the absence of the Editor, Andrew Waugh, the Secretary tabled the Editor's Report for 2018.

All six issues of "Somersault" for 2018 were produced during the year, although some ran a little late.

Unfortunately, the production process had to be changed which resulted in the reduction of quality of the diagrams. I am investigating alternatives to improve the quality of diagrams.

I would like to make the traditional request for articles, photographs, diagrams, etc. that can be published in "Somersault". Contributions do need to be related to signalling, though not necessarily just about Victoria.

Andrew Waugh Editor. Glenn Cumming / David Stosser. Carried.

SRSV President David Langley urged all SRSV Members to support "Somersault" and assist the Editor wherever possible.

Archives Report: – The Secretary Colin Rutledge presented a brief report on activities 2018.

Progress with our Archives at Seymour has continued in 2018.

Activities in 2017 have concentrated on sorting the collection, with more to be done.

Planning for the digitisation of the archives collection has continued and investigations for the purchase of a suitable plan scanner continues.

Glenn Cumming / Peter Silva. Carried.

Elections: – The Vice-President, Bill Johnston, chaired the meeting for the election of the new Committee.

No written nominations were received.

The following verbal nominations were received at the meeting: –

President: – David Langley, nominated by David Stosser and seconded by Graeme Dunn.

Vice President: – Bill Johnston, nominated by Michael Formaini and seconded by Keith Lambert.

Secretary: – Glenn Cumming, nominated by David Stosser and seconded by Neil Lewis.

Treasurer: – Peter Silva, nominated by Michael Formaini and seconded by David Stosser.

Committee member: – Colin Rutledge nominated by Michael Formaini and seconded by Neil Lewis.

Committee member: – David Langberg nominated by David Stosser and seconded by Stuart Turnbull.

There being no further nominations, all nominees were declared elected to the position.

General Business: – Michael Formaini thanked the SRSV for the donation of some duplicate material to the Australia Model Railway Association.

Bill Johnston noted that a draft of updates to the rules of the SRSV was being reviewed by the committee distributed to members before the May 2019 meeting.

Meeting closed @ 20:26 hours.

The March 2019 Annual General Meeting was followed by the March 2019 Ordinary Meeting.

## MINUTES OF SPECIAL ANNUAL GENERAL MEETING HELD FRIDAY 17 MAY 2019, AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVENUE, SURREY HILLS, VICTORIA

Present: – Noel Bamford, Glenn Cumming, Graeme Dunn, Michael Formaini, Chris Gordon, Judy Gordon, Andrew Gostling, Bill Johnston, David Jones, Keith Lambert, David Langberg, Neil Lewis, Phillip Miller, Colin Rutledge, Roderick Smith and Andrew Wheatland. (16 members present.)

Apologies: – Robert Bremner, Brian Coleman, Warren Doubleday, Chris King, David Langley, Steve Malpass, Andrew McLean, Adrian Ponton, Laurie Savage, Peter Silva, David Stosser, Leon Tirel, Stuart Turnbull, Frank Tybislawski, David Ward and Andrew Waugh.

Visitor: – James Sinclair.

In the absence of the President, the Vice-President Mr. Bill Johnston, took the chair & opened the meeting at 20:04 hours (8.00 pm).

Proxies: – The Secretary advised that eight (8) completed proxy forms had been received and these were read to the meeting.

Moved Colin Rutledge, seconded Phillip Miller, that: –

"That the new Rules of the Signalling Record Society Victoria Inc. be adopted".

Bill Johnston spoke in favour of the special resolution and provided reasons for the adoption of the new rules.

Vote: – All in favour, none against.

The Chairperson of the Special General Meeting declared that the Special Resolution had been carried unanimously.

Meeting closed at 20:10 hours (8.10 pm).

## SIGNALLING ALTERATIONS

*The following alterations were published in WN 1/20 to WN 6/20, and ETRB A circulars. The alterations have been edited to conserve space. Dates in parenthesis are the dates of publication, which may not be the date of the alterations.*

- 04.01.2020 Metrol (SW 17/20, WN 1)**  
On Saturday, 4.1., the TCMS data was updated to support the new control systems at Caulfield and Moorabbin, and the signalling alterations between South Yarra and Hawksburn.
- 04.02.2020 Moorabbin (SW 18/20, SWP 16/19, WN 1)**  
On Saturday, 4.1., control of the points and signals in the Moorabbin area was transferred to the TCMS control system. Moorabbin will still be worked by Caulfield signal box.  
A new version of the Caulfield Group Operating Procedure No 1 (Caulfield – Moorabbin, Failure of Signals) was issued, but only the instructions relating to Moorabbin became effective.
- (07.01.2020) Melbourne Yard (SW 1/20, WN 1)**  
Operating Procedure 132 (Melbourne Yard) was reissued. The main changes were the abolition of Hollands Loop (SW 22/19), Reversing Loop (SW 175/19), and the South Hump Avoiding Track & the Wagon Storage Yard (SW 178/19). SW 44/17 was cancelled.
- (07.01.2020) Nyah West (TON 6/20, WN 1)**  
The Up end main line points (374.152 km) were secured normal due to unserviceable point timbers.
- 10.01.2020 Toolamba – Echuca (SW 2/20, WN 2)**  
On Friday, 10.1., the Toolamba – Echuca line was booked out of service due to sleeper condition, geometry faults, and failing culverts. The absolute occupation between Toolamba & Echuca (SW 346/19) was cancelled.  
The junction points at Toolamba have been secured normal, and baulks have been provided at the Stop Boards at Toolamba and the Murray Valley Hwy at Echuca.  
Three monthly track patrols will occur.
- 13.01.2020 Caulfield – Moorabbin (SWP 16/19, WN 1)**  
On Monday, 13.1., the remaining portions of the re-issue of Caulfield Group Operating Procedure No 1 (Caulfield – Moorabbin, Failure of Signals) became effective.
- (14.01.2020) Southern Cross (SW 3/20, WN 2)**  
Operating Procedure 5 (Southern Cross) was reissued. Operating Procedures 6, 7A, 7B, & 7C (SW 169/09) were incorporated in the reissue and are cancelled.
- (14.01.2020) Franklin Street – North Melbourne (SW 3/20, WN 2)**  
Operating Procedure 6 (Franklin Street – North Melbourne) was issued and deals with the dual gauge North Melbourne flyover and the Regional Access line.
- 20.01.2020 Epping (SW 36/20, WN 2)**  
On Monday, 20.1., Down Home EPP110 was replaced by a tilt mast post located 86 metres in the Up direction from the former post.  
Diagram 1/20 (Ruthven – Epping) replaced 39/19.
- 20.01.2020 Maryvale (SW 226/19 & 5/20, WN 1 & 3)**  
Between Monday, 6.1., and Monday, 20.1., (or until the completion) the following alterations took place:
- The National Trackwork Point lever on the Up end main line points and associated rodded connections were abolished, together with the key switch release and electric point lock.
  - The compound points at the Up end of Nos 2 & 3 Roads were abolished.
  - The dead end extension at the Up end of No 2 Road was abolished, together with the hand operated derail in the dead end extension.
  - Baulks were provided at the Up end of No 3 Road at 147.747 km. No 3 Road has been reduced in length by 18 metres and is only accessible from the Down end.
  - Double bladed Catch D was provided at the Up end of No 2 Roads at 147.695 km.
  - The Up end main line points (Points C) and Catch D were equipped with dual control point machines. These point machines will only be available for hand operation. Catch D will be secured normal by an E pattern Annett Lock on the selector lever. Points C will be similarly secured normal by an F pattern

Annett Lock. The E pattern Annett key will be secured in a Crosslock opposite Points D. The F pattern Annett key will be secured in a sleeper mounted locked housing opposite Catch D.

- Signal masts (without heads) will be provided at 147.631 km (Up side of line) and 147.695 (Down side of No 2 Road).

The following instructions must be followed to reverse Points C. The Signaller must block Down Automatic D1483 at Tramway Road at stop before the electric release can be given. For Down trains to the Maryvale Exchange Siding, D1483 is to be blocked before the train leaves Morwell where possible, and the release is not to be given until the train has come to a stand on the approach to Points C. When the release is given an illuminated push button will light at the crosslock. The E Pattern Annett key can then be removed by pushing the button and turning the key. The key is then used to unlock the selector lever on the point machine at Catch D which can then be placed in the 'Hand' position and the points reversed. This frees the F Pattern Annett key from the lock on the sleepers. The F Pattern Annett key is then taken to the point machine on Points C and these points reversed. Restoring the Points/Catch normal is the reverse of this process. Operating Procedure 128 (Maryvale Siding) was reissued. SW 183/06 was cancelled.

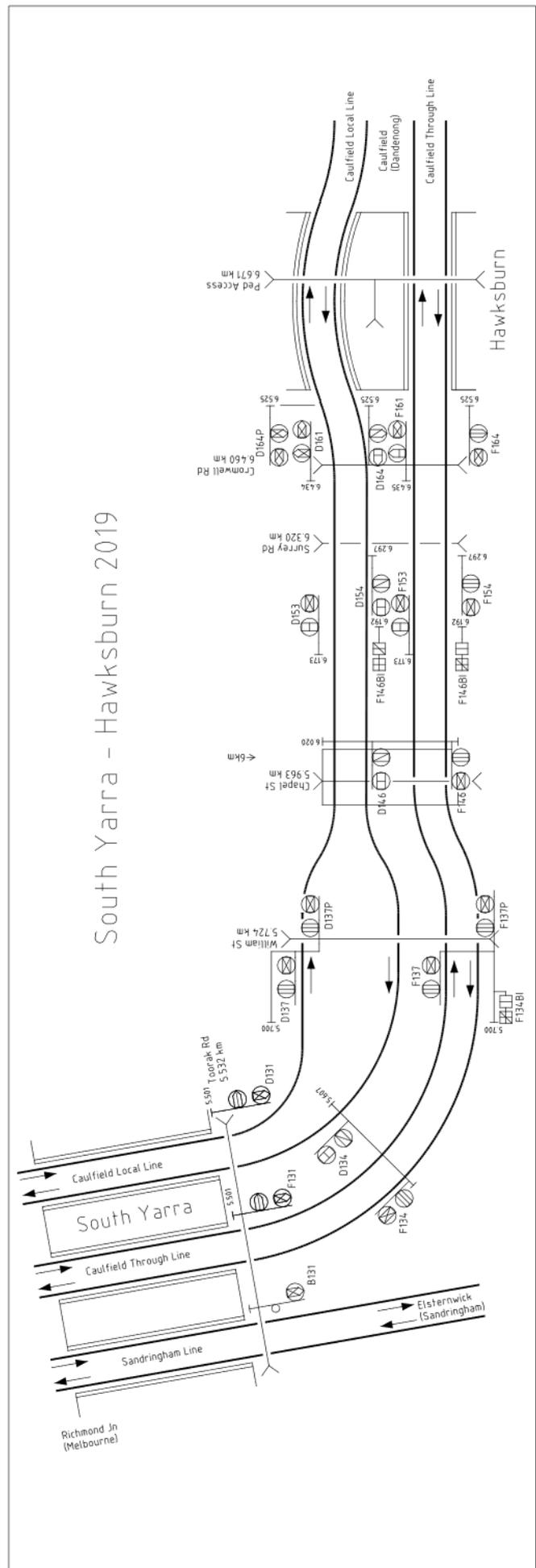
Diagram 90/19 (Morwell – Morwell Industrial Siding) replaced 52/14.

**(21.01.2020) Moe – Morwell (SW 5/20, WN 3)**  
Operating Procedure 127 (Moe – Morwell) was reissued. SW 182/02 & 183/06 are cancelled.

**21.01.2020 Charlton (TON 28/20, WN 4)**  
On Tuesday, 21.1., the siding between 318.085 km and 318.947 km was booked back into service.

**22.02.2020 Moorabbin (SW 45/20, WN 3)**  
On Wednesday, 22.1., the TCMS data at Metrol was updated to modify the Express/Stopper data in the Moorabbin control area.

**27.01.2020 South Yarra – Hawksburn (SW 24/20 & SWP 1/20, WN 2)**  
On Monday, 27.1., all four tracks between Toorak Rd and Chapel St were slewed around the ramp and portal for the Metro tunnel. Turnout panels were put in the Up and Down Caulfield Local lines for the future facing and trailing crossovers in the



Caulfield Local lines and the points to the tunnel, but the blades were not installed. The line speeds on both the Caulfield Local and Through Lines are 60 km/h for EMU and railcars, 50 km/h for diesel hauled passenger trains, and 30 km/h for freight trains. The curves are signposted for 40 km/h.

The following signalling alterations took place:

- Automatics D145, F145, D152, F154, D153, F153, D140 & F140 were removed.
- Uncontrolled Homes D134, F134, D137, F137, D146, F146, D153, F153, D154, & F154 were provided, together with co-acting signals D137P and F137P.
- Banner Indicators F134BI, D146BI, & F146BI were provided.
- Automatics D164, D164P, and F164 will no longer display a Clear Medium Speed or Medium Speed Warning indication.
- The following signals were equipped with TPWS: F114, F117, F124, F131, D134, F134, D137, F137, D146, F146, D153, F153, D154, F154, F161, & D164.

The Caulfield Panel Signaller, Metrol, is responsible for giving permission to pass the new uncontrolled Homes at Stop.

All new signals are LED, and all track circuits are audio frequency.

Metro Inner Group Operating Procedure 1 (Metro Controlled Area – Failure of Signals) was updated.

Clause f (Failure of Intermediate Uncontrolled Home Signals) was modified to cover the new sections.

Signalling Diagram 55/19 (South Yarra – Malvern) replaced 79/06.

- (28.01.2020) Melbourne Yard** (SW 61/20, WN 4)  
No 8 Siding at Melbourne Yard was restored to service. The locking device was removed from Points 167. SW 639/19 is cancelled.
- (28.01.2020) Morwell – Maryvale** (SW 8/20, WN 4)  
Diagram 90/19 (Morwell – Morwell Industrial Siding) replaced 52/14 as in service.
- 02.02.2020 Carrum** (LXRA, SW 63/20, WN 5)  
On Sunday, 2.2., the line was temporarily closed to allow final construction of the new viaduct. The following signalling alterations took place:
- Automatics F1107, F1110, F1128, F1131, F1157, F1157P, F1158, & F1183 were abolished.
  - Mascot Av (35.516 km), Stephens St pedestrian crossing (35.957 km), and Eel Race Rd (36.879 km) were abolished. All equipment was removed.
- (04.02.2020) Book of Rule – Use of Track Closure Devices & Permit Limit Markers** (SW 4/20, WN 5)  
• Operating Procedure 30 (Use of Track Closure Devices and Permit Limit Markers) was issued. SW 102/15 (Use of Track Closure Device), SW 26/16 (Use of Permit Limit Marker), and SW 202/17 (Use of Track Closure Device and Permit Limit Markers) were cancelled.
- 04.02.2020 Tottenham Yard** (TON 54/20, WN 6)  
On Tuesday, 4.2., No 6 Road West Yard was booked back into service.
- 07.02.2020 Toolamba – Echuca** (SW 11/20, WN 5)  
On Friday, 7.2., the level crossing equipment at the level crossings between Toolamba and Echuca was electrically disarranged: Mooroopna – Murchison Rd (168.493 km); Casey St (177.394 km); Hogan St (177.551 km); Park St (177.967 km); Ross St (178.336 km); Midland Hwy (181.694 km); Kyabram Rd (189.150 km); Allen St (198.943 km); Albion St (199.350 km); Church St (199.851 km); Kyabram Rd (210.674 km); Cornelia Creek Rd (230.793 km); & Murray Valley Hwy (232.174 km).
- 07.02.2020 Ferntree Gully** (SW 35/20, SWP 5/20, WN 4 & 5)  
On Thursday, 7.2., Automatic L1119 was redressed as a Home. A low speed aspect was not provided, and the existing post number was retained.  
The station limits on the Down line are from Home L1119 to Home 2R, and on the Up line from Home 2L to Automatic L1120.  
Burnley Group Operating Procedure 10 (Ferntree Gully – Upper Ferntree Gully – Upwey – Belgrave, Failure of Signals) was reissued.  
Diagram 3/20 (Heathmont – Belgrave) replaced 31/16.
- 07.02.2020 Upper Ferntree Gully** (SWP 5/20, WN 5)  
The station limits are from Home 10 to Home 36.
- 07.02.2020 Upwey** (SWP 5/20, WN 5)  
The station limits are from Home 40 to Home 46.
- 07.02.2020 Belgrave** (SWP 5/20, WN 5)  
The station limits are from Home 52 to the baulks at the end of Nos 1 & 2 Tracks.



- 17.02.2020 Carrum** (SW 63/20, SWP 2/20, WN 5)  
 On Monday, 17.2., the new viaduct was brought into use. The viaduct is 751 metres long and extends from 35.870 km to 36.621 km. The new Carrum station (36.202 km with 164 metre island platform) was opened for passenger traffic.  
 The following signalling alterations took place:
- Up Automatic F1184 was renumbered F1182
  - Homes CAR722, CAR732, CAR723, CAR733, CAR742 were provided. CAR723 will not be commissioned.
  - Automatics CAR633, CAR642, F1158, & F1185 were provided.
  - Trailing Crossover 622 was provided on the Up side of Carrum Creek, roughly on the site of the former Mascot Ave level crossing. The points are worked by in-bearer point machines. This crossover remains out of service.
  - Train detection is by axle counters. The axle counter section now extends on the Down line from 35.320 (CAR722) to 42.119 (KAN626), and on the Up line from 35.258 (CAR633) to the Up end of Syke Rd viaduct (note that the new sections connect with the existing axle counter sections installed as part of the Kananook stabling sidings). The axle counters support Supervisory reset, Point Supervisory reset, Next Train reset, Occupation reset, and full counting head control functionality.
  - TPWS was provided on CAR633, CAR642, CAR722, CAR723, CAR732, CAR733, CAR742, F1158, F1182, & F1185.
  - McLeod Road was extended underneath the viaduct at 36.155 km to a new intersection with the Nepean Hwy.
  - A pedestrian underpass was provided at Eel Race Rd (36.834 km).
  - The Carrum station limits extend on the Down line from CAR722 to CAR642, and on the Up line from CAR633 to CAR733.
  - Carrum is worked from Frankston signal box. The Kananook Railview system at Frankston signal box was extended to show the new signalling.
- Caulfield Group Operating Procedure 6 was replaced by a new Operating Procedure 6 (Frankston – Kananook – Carrum – Control of Rail Traffic Movements).  
 Diagram 5/20 (Bonbeach – Frankston) will replace 31/19.
- 18.02.2020 Hawksburn** (SW 74/20, WN 6)  
 On Tuesday, 18.2., Down Automatics D191 & F191 were converted to LED heads.
- 19.02.2020 Hawksburn – Toorak** (SW 81/20, WN 6)  
 On Wednesday, 19.2., Down Automatics D201 & F201 were converted to LED heads.
- 20.02.2020 Toorak** (SW 82/20, WN 6)  
 On Thursday, 20.2., Down Automatics D213 & F213 were converted to LED heads.
- 21.02.2020 Southern Cross** (SW 83/20, WN 6)  
 On Friday, 21.2., TPWS was provided at Homes 716 & 718 on the Up Through Suburban line, and Home 703 at Platform 12.
- 24.02.2020 Yarraman – Dandenong – Pakenham East** (SW 85/20, WN 6)  
 On Monday, 24.2., the axle counter data between the Down end of Yarraman and Pakenham East, together the portion of the Cranbourne line extending to DNG776, was updated to provide full supervisory reset functionality.
- 01.03.2020 Keilor Plains** (SW 86/20, WN 6)  
 On Sunday, 1.3., the emergency gates at the Station Access pedestrian crossing were equipped with electromagnetic locks.
- 01.03.2020 Lalor** (SW 87/20, WN 6)  
 On Sunday, 1.3., the emergency gates at Paschke Crescent were equipped with electromagnetic locks.

**End£**

# THE ORIGINS OF THE AUTOMATIC BLOCK SYSTEM

Andrew Waugh

It is common for the introduction of signalling and safeworking innovations to be inspired by accidents. One example is the automatic block system. Although people had had the idea of an automatic system of signalling trains earlier, the impetus for its actual introduction was a specific accident – Revere, Massachusetts, in 1871.

## The Revere Accident

In essence, there was nothing unusual about the Revere accident. Its basic cause – a rear end collision caused by the use of the time interval system was to be repeated many times in US railroading. But, as Shaw notes<sup>1</sup>, “In terms of casualties the relative importance of every railroad wreck can be precisely measured; in impact upon the public imagination it is more difficult to place them in order. But certainly the catastrophe at Revere, on August 26, 1871, would be in the running, even today [1978], for the unenvied title of best-remembered American railroad disaster.” Details of the accident are remarkably well known because it was officially investigated and a report published, and because a history of the Eastern Railway, on which the accident occurred, was published over 100 years ago.

Revere in 1871 was a village on the Massachusetts Bay about 7 kilometres north east of Boston. It was on a double track portion of the main line of the Eastern Railroad which ran from Boston to Portland, Maine, along the coast (the rival Boston & Maine line – still in use today – ran further inland).

The entry of the Eastern Railroad into Boston had a complicated history. The centre of Boston is on a peninsular, bounded on the west by the Charles River, on the north by the junction with the Mystic River, and on the east by Boston Harbor. This caused problems for the railroads heading north and west from Boston, including the Eastern Railroad.

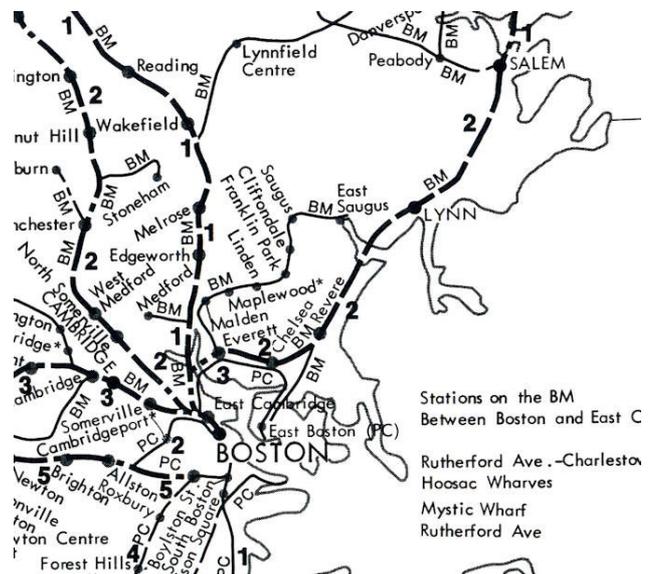
When the first section of the line was opened in August 1838 the terminus was on the northern bank of Boston Harbour at East Boston, directly opposite Boston itself. The line ran directly north east over marshy land towards Lynn, and passengers travelled into Boston by ferry. By the 1850s this was becoming uncompetitive with the Boston & Maine and the line was extended by a circuitous route into Boston. The extension, opened in April 1854, left the original main line at North Chelsea (Revere), running eastward through Chelsea, before swinging southwest at South Malden (Everett) to cross the Mystic River, then swinging south east at Charleston, and crossing the Charles River to the edge of Boston. The extension was about six miles long and double tracked. The original direct line to East Boston was then largely given over to freight.

Around the same time, in February 1853, the Saugus branch was constructed from the Boston & Maine at

Malden to Lynn, although it was operated and largely owned by the Eastern Railroad. The Eastern Railroad rapidly obtained permission to extend the Boston end of the branch from Malden to its main line at South Malden Junction (later Everett Junction) and the country end to its existing line at Lynn. These extensions were opened in 1855 and the line rapidly became a busy commuter line.

Today, all of these locations are suburbs of Boston. The main line is still in active use for MBTA commuter trains to Newburyport and Gloucester (the modern Amtrak service to Portland & Brunswick uses the Boston & Maine route further inland). The Saugus branch was closed for passenger traffic in 1958, but remained in use for freight until 1993, and now appears to being converted as a nature walk. The original main line from Revere to East Boston has also closed.

Operation of the Eastern Railroad was primitive. In the 1860s, Bradlee<sup>2</sup> notes that “in spite of the fact that rules expressly forbade conductors to accept verbal instructions for meeting trains at other places than those specified in the time table, [Superintendent] Prescott would very often instruct the conductor of a train leaving Boston much as follows: ‘When you pass so and so (the conductor of an inward train), tell him we are going to run an extra to leave Boston at such and such a time; tell him if he can pass it at such and such a place all right, if not, let him keep clear.’” The conductors being Mr Prescott’s subordinates, were of course forced to accept these verbal instructions, but it led to trouble more than once.” Trouble included a head on collision in 1862 between a regular train and an extra. In this case, Superintendent Prescott had given written orders to the extra to pass the regular train, but had failed to give any orders at all to the regular train.



<sup>1</sup> A History of Railroad Accidents, Safety Precautions and Operating Practices, Robert B. Shaw, Vail-Ballou Press, 1978, p78

<sup>2</sup> ‘The Eastern Railroad’, Francis B.C. Bradlee, The Essex Institute, 1917

Although a private telegraph line ran along the Eastern Railroad from 1847, and the railroad having free use of the wires in case of need, it was rarely used for train messages. Bradlee states "It is known that Mr Prescott had a strong dislike to running trains by telegraph, and as late as 1856 there is an authenticated case of a long freight train waiting in Salem all night for an extra passenger train which also passed the night waiting at Ipswich. There was a misunderstanding in the orders, and both conductors were afraid to go ahead." However, this distrust of train working by telegraph was shared by all the New England railroads, and 'modern' train despatching was not introduced on any of the lines until after the Revere accident. Needless to say, when train running got out of course, the situation rapidly became pear shaped.

In the afternoon and early evening of Saturday, 26 August 1871, things were, indeed, rapidly going pear shaped<sup>1</sup>. The location of the line, along the Atlantic coast, resulted in considerable summer traffic. In the winter months the weekly passenger traffic was around 75,000 passengers. In summer, the traffic increased to about 110,000 passengers per week. In the week ending Friday, 25 February, the weekly total was over 140,000, due to two religious camps at Hamilton and Kennebunk, and a militia muster at Swampscott. The official report noted "Great confusion resulted from this condition of affairs, and, during the day of the accident, trains arrived at and left the station in Boston in very considerable disregard of their regular time." Bradlee was more graphic, "As the week drew to a close confusion and pandemonium reigned supreme, and the trains reached and left the Boston station with an almost total disregard of the schedule, while towards the evening of Saturday the employees at that station directed their efforts almost exclusively to dispatching trains as fast as cars could be procured, thus trying to keep it as clear as possible of the great throng of impatient travellers."

Four trains were scheduled to leave Boston on Saturday evenings: a Saugus branch train to Lynn at 6.30 p.m., a second Saugus branch train at 7.00, a Beverly accommodation (stopping all stations main line) train at 7.15, and, finally, the Portland express at 8.00 p.m. On this night, all of these trains were considerably delayed and left misordered:

- The first Saugus branch train left around 7 p.m.
- The Beverly accommodation at 7.40 pm
- The second Saugus branch train at 7.53 p.m.
- The Portland express at around 8.05 p.m.

Note that the second Saugus branch train was considerably delayed due to lack of a crew, and followed the Beverly accommodation instead of preceding it.

When the first Saugus train arrived at Everett Junction (junction of the Saugus branch) a further problem arose causing even more delay. The Saugus branch was single track and a special rule provided that no outward train was to pass on to the branch until any inward train due had arrived and cleared the junction. No siding was provided

to refuge outbound branch line trains, nor did the special rule provide for refuging the branch train on the inward main line, or on the branch, under flag protection.

As it happens, an inbound Saugus branch train was due, in fact, well overdue. According to the schedule the inbound loop train was due to leave Lynn at 6.00 p.m. The official report states "[t]he prevailing confusion and insufficiency of rolling stock, combined with the accidental breaking of a coupling, delayed the departure of this train from Lynn until 7.30 p.m." Bradlee expands on this – the conductor of this train had been instructed to wait at Lynn for a main line extra from the Ashbury Grove Camp Meeting. This was, however, very late as one of its cars had broken a draw-bar when starting. The branch line train consequently did not leave Lynn until 7.30 and did not reach Everett Junction until 8.10 p.m.

It appears that such out of course running was not uncommon at Everett, and the regular man in charge of the signals and switches at the junction, John J. Robinson, routinely shunted the outbound train, under flag protection, onto the branch or the inward main line to clear the outbound line, despite lacking formal approval for the practice. The official report stated that "he had never reported [this practice] to the superintendent of the road, who was consequently ignorant of the fact that any practical necessity for a siding existed." This should, of course, be taken with a certain amount of salt, as it should have been obvious to the superintendent what was going on. Unfortunately, Robinson was severely ill that night and his replacement rigidly applied the rules.

Consequently, when the first Saugus branch train arrived at Everett around 7.10 the switchman left it sitting on the main line (note that the inbound train had not even left Lynn at this time) which blocked the following trains. By the time the inbound train arrived at 8.10, the queue of trains on the outbound main line consisted of the 6.30 Saugus train, a light engine for Salem, the Beverly accommodation, and the second Saugus train., with the Portland express just about to arrive. All these trains had been protected by their flagmen and were spaced out along the line. It was dark by this time, and it appears that none of the train crews were fully aware of the identity of the other trains. Bradlee notes "Here was a road utterly unable to provide its passengers with cars, while a succession of trains were standing idle for an hour because a train was delayed twelve miles way. A simple telegraph message to the branch trains to meet and pass at any other point than that fixed in the schedule would have solved the whole difficulty. There were two telegraph operators in the Boston station and a telegraph office at Lynn (though not in the station), but it does not seem to have occurred to anyone, from Superintendent Prescott down, to make use of the wires to find out the cause of the delay."

With the inbound train clear of the single line, the trains were allowed to continue their journey. First, the 6.30 Saugus branch train entered the branch, then the Beverly accommodation departed along the main line (the light

<sup>1</sup> Most of the following description of the Revere accident, and the recommendations is taken from the official investigation report by the Massachusetts Railroad Commission (Third Annual Report of

the Board of Railroad Commissioners, January 1872 (<https://hdl.handle.net/2027/nyp.33433057105367?urlappend=%3Bseq=113>). Additional details have been taken from Bradlee.

engine had been coupled to the head of the accommodation at Everett Junction). The second Saugus branch train then followed the first onto the branch. The Portland express arrived at the junction before the queue of trains had cleared and was stopped by the flagman of the second Saugus branch train. The engineer then saw the preceding train take the branch.

Before the Portland express had left Boston it had been verbally instructed by the depot master, S.O. Lunt, to "look out for the trains ahead of him" (Bradlee has this as "to look out for the Beverly train"). This instruction had come from the superintendent as the non-arrival of the inbound Saugus train indicated that there must now be a block at Everett. The depot master gave this instruction to the engineer as the train was beginning to move, and, irrespective of the actual message, the engineer thought that it referred to the Saugus branch train. When he saw the Saugus train take the branch, the engineer apparently assumed that this was the train he was to watch out for and dismissed the warning from his mind.

This was compounded by the lack of care of Conductor John S Nowland on the Beverly accommodation. If the trains were following their proper schedules, there would be 45 minutes between Beverly accommodation and the Portland express. On this day, there was 25 minutes between the departure of the two trains from Boston and this would have been sufficient to keep the two trains apart. However, the additional delay at Everett reduced this time interval to not more than five minutes. Conductor Nowland had apparently been very unwilling to depart from Boston so late and ahead of the express, but Superintendent Prescott had assured him that the engineer of the express would be instructed to look out for him (hence the imprecise or poorly understood verbal caution). Nowland now had the impression that the train behind him in the blockage at Everett Junction was the express, as it should have been by the schedule, and hence believed that the engineer of the express, knowing his position and that Nowland's train was to make all stops, would run with care. Perhaps because of this, Nowland, was casual about the further delay at Everett Junction. He failed to consult his watch, and thought that he had only been delayed at Everett not more than six to eight minutes, when he had been delayed 15, and was now running on the time of the Portland express. The official report noted, "Had [the Conductor] been aware of this fact, he would simply have directed the station master at Everett to warn the engineer of the Portland train. Unfortunately, however, he was ignorant of it, as it had devolved upon the branch train behind him in the block to stop the Portland train, and knowing that he was entirely out of his regular time and also supposing that the branch train behind him was the Portland train, he seems never to have doubted that this train had been cautioned before starting to look out for him, and also knew where he was. He accordingly neglected to take any precautions, and seemed to be less correctly informed as the true condition of affairs than some of the passengers on his train who had already begun to evince alarm."

The official report noted that the close proximity of the two trains "attracted the notice of certain of the employes,"

meaning the station agent at Chelsea (the next station, half way between Everett Junction and Revere). But that employee concluded that those in charge of the two trains knew what they were doing and did nothing to warn the express. The report continued "but no system of caution signals seems to have been provided, and the great irregularity in the train movement of the road seems also to have demoralized the employes to some extent, so that they apparently took it for granted that those in charge of the trains were fully aware of their relative positions." It appears that it was not the practice of the Eastern Railroad for hand signalmen to use 'caution' signals to reinforce the time interval between trains. It was usual to require a minimum time interval, but if the Eastern Railroad applied this rule it is not mentioned in the official report.

The track approaching Revere is straight for a considerable distance, before encountering a left-hand bend through the station itself. The junction with the East Boston branch trailed in just beyond the station, and a signal protected the junction. This signal took the form of a tall pole, to the top of which a red lantern was hoisted if the junction was set for the East Boston branch or if an approaching train was to be stopped at Revere.

Approaching Revere, the two trains were close enough for a passenger standing on the rear platform of the Beverly train to see the "powerful" headlight of the express behind him. There was patchy mist, however, and the investigation noted that it did not follow that the engineer of the express could consequently see the tail lights of the Beverly accommodation, which were ordinary white lanterns without even reflectors. At this point the two trains were estimated to be about a mile apart. Even approaching Revere station, the tail lights should have been visible for a considerable distance, sufficient for a train travelling at a "reasonable speed" to be stopped (the express was estimated to be travelling at 20 to 25 mph). Unfortunately, the attention of the engineer of the express was looking upwards to check for the signal at Revere, not along the track.

Those in charge of the two trains apparently became aware of the other train at a distance of about 800 feet. The Beverly train had just started and Conductor Nowland sprang onto the track waving his lantern as a signal for danger. By this time, however, the engineer of the Portland express, Brown, had already whistled for brakes and reversed his engine. Both he and the fireman, William Simonds, then jumped, unfortunately before setting the engine brake. The short warning time meant that the remaining train crew of the express barely had time to get to their brakes before the impact – the train baggage master, Benjamin F. Keyes, was caught between the cars – and the report considered that no more than two brakes were actually set and the speed at impact was around 10 mph. The express was made up of a baggage car, Pullman car, smoking car, and passenger coach.

The Beverly train was made up of a baggage car, a smoker, and two passenger cars. The carriages of the were standard American cars – bogie end platform cars with a wooden underframe and body. The engine of the Portland express split the rear car asunder and ended up with about two thirds of its length embedded in the car. The impact

broke fittings on the boiler, filling the interior of the car with steam. The kerosene lamps illuminating the cars were broken and that set the entire train alight.

It was estimated that there were between 65 and 70 people in the rear car, and 29<sup>1</sup> of these were killed. Over the entire train 57 people were injured. There had only been one previous accident in New England with a higher number of deaths and injuries (on 6 May 1853 when a New York & New Haven plunged through an open draw span at Norwalk, Conn).

Conductor Nowland was held to be at fault by the company for failing to send out his flagman to protect against the express (although the trains were running so closely together it is hard to imagine that flagging would have been effective).

When the official inquiry asked Superintendent Prescott if the use of the telegraph would have prevented the accident; the response was "No, he did not think so, it might work well under certain circumstances, but for himself he could not be responsible for the operation of a road running the number of trains he had charge of in reliance on any such system." It also transpired that Conductor Goodhue of the express had told both Prescott and the President Browne that it was impossible to make any kind of a quick stop with only the hand brakes on the heavy Pullmans, but he had been told to "do the best you can."

The accident cost the Eastern Railroad \$510,600 in damages and additional funds required to modernise and improve the line. President Browne resigned in February 1872. Superintendent Prescott surprisingly was retained, but Charles F. Hatch was brought in from the Lake Shore and Michigan Southern to be General Manager over him. Hatch introduced Train Order working on the Eastern Railroad, bringing the Train Dispatcher with him – this was the first railroad in Massachusetts to use this system. The financial cost of the accident was an important factor in the eventual merger of the Eastern Railroad into its hated rival, the Boston & Maine.

#### **Adams' personal view**

The preceding discussion has been based on the official investigation by the Massachusetts Railroad Commission. There were three Commissioners, but the person doing all the work was the most junior Commissioner, Charles Francis Adams Jr. In 1879, after he had left the Commission, Adams published what was probably the first English language book on railway accidents. In it, he discusses the

Revere accident, and freed from the formal constraints of the Commission, he was blunt<sup>2</sup>:

*Here was a crowded line, more than half of which was equipped with but a single track, in operating which no reliance was placed upon the telegraph. With trains running out of their schedule time and out of their schedule place, engineers and conductors were left to grope their way along as best they could in the light of rules, the essence of which was that when in doubt they were to stand stock still. Then, in the absence of the telegraph, a block occurred almost at the mouth of the terminal station; and there the trains stood for hours<sup>3</sup> in stupid obedience to a stupid rule, because the one man who, with a simple regard to the dictates of common sense, was habitually accustomed to violate it happened to be sick. Trains commonly left a station out of time and out of place; and the engineer of an express train was sent out to run a gauntlet the whole length of the road with a simple verbal injunction to look out for some one before him. Then, at last, when this express train through all this chaos got to chasing an accommodation train, much as a hound might course a hare, there was not a pretence of a signal to indicate the time which had elapsed between the passage of the two, and employees, lanterns in hand, gaped on in bewilderment at the awful race, concluding that they could not at any rate do anything to help matters, but on the whole they were inclined to think that those most immediately concerned must know what they were about. Finally, even when the disaster was imminent, when deficiency in organization and discipline had done its worst, its consequences might yet have been averted through the use of better appliances; had the one train been equipped with the Westinghouse brake, already largely in use in other sections of the country, it might and would have been stopped; or had the other train been provided with reflecting tail-lights in place of the dim hand-lanterns which glimmered on its rear platform, it could hardly have failed to make its proximity known. Any one of a dozen things, every one of which should have been but was not, ought to have averted the disaster. Obviously its immediate cause was not far to seek. It lay in the carelessness of a conductor who failed to consult his watch, and never knew until the crash came that his train was leisurely moving along on the time of another. Nevertheless, what can be said in extenuation of a system under which, at this late date, a railroad is operated on the principle that each employee under all circumstances can and will take care of himself and those whose lives and limbs are entrusted to his care?*

(To be continued)

<sup>1</sup> Bradlee has 30.

<sup>2</sup> Notes on Railroad Accidents, Charles Francis Adams Jr, G.P Putnam's Sons, 1879, p154-5

<sup>3</sup> Actually about an hour.

## ALBURY – WODONGA IN 1995



The SRS Showday tour in 1995 – actually held on Melbourne Cup Day 7 November – visited Albury/Wodonga. At this time the area still had four signal boxes – Wodonga A, Wodonga Coal Sidings, Albury South, and Albury Station, in that order from Melbourne. Wodonga A (above) would easily take the prize for the ugliest signal box of the four (it looked even worse from the back with HVAC ductwork). Brought into use in December 1961 for the new standard gauge line to Melbourne, it replaced both original mechanical boxes at Wodonga. Ugly it might be, but A Box was certainly spacious. It contained a 68 lever tappet frame working the points and signals at the Up end of the yard, while the standard gauge and the Down end of the broad gauge yard was worked from a panel which can just be seen on the right. The electric staff instrument in the foreground is for the Bandiana branch. The broad gauge connection to this branch line, at the Down end of Wodonga yard, had been taken out of use in June 1995 and all the staffs had been removed from the instrument. The instrument was, however, still in use to allow the intermediate instrument at Wodonga Coal Sidings to extract staffs. Wodonga A remained in regular use until the broad gauge line was closed on 1 December 2008. It was probably never used again, although theoretically available to switch in on the standard gauge.





*Wodonga Coal Sidings was the next box. The box was opened in 1942 to control access to the large transshipment yard, and the standard gauge access to the Defence Department's sidings at Bandiana. It contained a 35 lever tappet frame. The box could switch out on both the standard and broad gauge lines – the two closing levers can be seen in the middle of the frame - and was staffed as required. The broad gauge line was closed on 1 December 2008, but Wodonga Coal Sidings remained in use to provide standard gauge access to the yard and the branch. The Bandiana branch was finally closed on 1 September 2009. Wodonga Coal Sidings remained in use to provide access to the yard until it was formally abolished with the opening of the Wodonga Bypass on 23 July 2010. It had the distinction of being the last remaining signal box in the Albury/Wodonga region.*





*Albury South signal box was the newest of the four boxes – being provided on 14 May 1962 as part of the work for the new standard gauge line to Melbourne. Unlike the other three boxes, Albury South housed a relay interlocking. Bob Taaffe classes this design as a Type S1. It was still recognisably a signal box, albeit with an extended ground floor to house the relays required for the interlocking. The panel (below) was provided by McKenzie & Holland and thirty three years after it was provided is scarcely altered – it even retained the built in ash-trays for the signalmen's cigarettes. The box was closed in August 2003 when control of the yard was taken over by Junee. At this point, it is worth noting that Volume 3 of 'Signal Boxes of the New South Wales Railways and Tramways' has just been released and includes both Albury boxes.*





*Albury Station signal box was the oldest, and most attractive box, in the area. Opened in January 1887, it was of the brick to floor Type E1. The locking room brickwork was panelled. The 44 lever NSW standard Type A tappet frame was provided in March 1940, replacing a 36 lever frame, due to war traffic. The yard was re-arranged in 1961 in preparation for the standard gauge to Melbourne, but afterwards was scarcely altered. The illuminated track diagrams were almost certainly provided in 1984 when the up (north) end of the yard was resignalled in preparation for the CTC from Junee. The brick extensions, built at different times, at the far end of the box, formed a relay room to house the equipment to work the Sydney end of the yard. Albury Station box was also closed in 2003 when control of the yard passed to Junee. Both Albury Station and Albury South boxes still stand.*

