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Deadline for May 1987 issue is 19 April 1987.
NEXT MEETING: Friday, 20 March 1987.
VENUE: A.R.H.S. Library Room, Windsor Rly Station.

MINUTES OF FEBRUARY 1987 MEETING

HELD AT: A.R.H.S. Library Room, Windsor Railway Station.

MEETING COMMENCED: at 2010 hours. In the temporary absence of the Secretary, due to late running Eastern trains, Peter Pay acted as Minutes Secretary.

PRESENT: Jack McLean, Stephen McLean, Wilfrid Brook, Jim Brough, Jon Churchward, Glenn Cumming, A. Gostling, Roger Jeffries, Alan Jungwirth, Tony Kociuba, Keith Lambert, Bruce McCurry, Peter Pay, Colin Rutledge, John Sinnatt, Andrew Waugh, Bob Whitehead, Chris Wurr.

VISITORS: Ralph Montagu and Andrew McLean.

WELCOMED: Chris Wurr and Ralph Montagu.

MINUTES OF PREVIOUS MEETING: in the absence of the minutes, confirmation was deferred until next meeting.

CORRESPONDENCE: A nil return was received from Bob Taaffe. (?)

GENERAL BUSINESS: Nil

NEWS ITEMS: 1. Jack McLean referred to an article in 'TRAINS' on the end of Train Order working in USA and Canada. He also did a "commercial" for the new book 'CROSS COUNTRY' of which he and Norm Houghton are co-authors. It will be on sale soon in the Rail Fan shop for $5.95.
2. Tasmanian member, Greg Johnson, will be in Melbourne next week end and he will be staying at 60 Kenmare St.

3. Norm de Pomeroy had told Jack McLean of the finding in the Traralgon signal box of a book of Pilot Guard tickets. Jack was asked by Norm what Pilot Guard working was all about. If anyone has any information about this system and why it was used, please let Jack know.
4. Jack McLean also had a telephone call from the writer of a history of the Box Hill- Doncaster tram. Jack has at last had confirmed his suggestion that the gauge was 4ft 8 1/2in.
5. Chris Wurr told of rumors of Ararat yard being reduced to six roads with a long one ending up near the point of divergence of the Portland line. Nothing has happened yet except that ballast has arrived.
6. The meeting was asked what the four signal boxes at Footscray were lettered, and was told that on the Sunshine line they were "A" (Junction), "D"(Nicholson Street tram crossing) and "C" (Albert Street). [As "D" came last to control the tram crossing, it was out of order.] "B" (Napier Street) was on the Newport line.

SYLLABUS ITEM: First off we had several of Peter Pay's slides in no sort of order and international. Thank you Patere.
Chris Wurr then showed about 100 slides of his stamping ground - Ararat. The destruction of Ararat "B" Box was of great interest as well as some of the district taken from the driver's window. Thank you Chris.
Finally, Andrew McLean showed 27 Guessing Game slides and these created quite a lot of interest and amusement. Not suprisingly two McLeans seem to have topped the score with 21 out of 27, but NOTE, they didn't miss out on the same six. McLean Father has the great advantage of having been around since when (the Boer War?) McLean Major has had more ALL LINES TICKETS than anyone else we think, and should know ALL current stations by this time. Thank you Andy for helping out at short notice.

MEETING ENDED: at 2230 hours but casual conversation went on afterwards until well after 2300 hours.

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MINUTES OF MARCH 1986 ANNUAL MEETING

HELD AT: A.R.H.S. Library Room, Windsor Railway Station on Friday, 21 March 1986.

MEETING COMMENCED: at 2000 hours.

PRESENT: Jack McLean, Stephen McLean, Mark Bau, Wilfrid Brook, Jim Brough, Jon Churchward, Glenn Cumming, Warren Doubleday, Chris Guy, Roger Jeffries, Alan Jungwirth, Tony Kociuba, David Langley, Adrian Ponton, Colin Rutledge, John Sinnatt, M. Wallis.

MINUTES OF PREVIOUS MEETING: adopted as read (S.McLean/Rutledge)

BUSINESS ARISING: This is most likely necessary but in the absence of the Treasurer and his report, the matter will be deferred until the next meeting. (Doubleday/Jungwirth)

PRESIDENT'S REPORT: Jack thanked all concerned for a successful year enjoyed by the Society; particular thanks were extended to those who had organised tours.

EDITOR'S REPORT: Six issues of SOMERSAULT were published. David thanked those who had contributed but reminded members not to stop writing. A financial report for the editorial committee was tabled.

TOUR'S REPORT: As well as the usual Show Day tour, 1985 also saw the tenth anniversary tour to Northern Victoria and Southern New South Wales, run in conjunction with the NSW group. Both tours were very successful.

SUBSCRIPTION: Deferred for discussion until the Treasurer's report is presented.

ELECTION OF OFFICE BEARER'S: Jim Brough took the chair and the following were electedto office for 1986:-

GROUP LEADER	Jack McLean	(Jungwirth/Kociuba)
DEPUTY GROUP LEADER	Alan Jungwirth	(Langley/Doubleday)
SECRETARY	Stephen McLean	(Rutledge/Churchward)
TREASURER	Rob Weiss	(J. McLean/Rutledge)
EDITOR	David Langley	(Ponton/Brook)
ARCHIVIST	-	-

It is society policy that the archives and the Society headquartersbe located in a permanent home, such as North Melbourne signal box (when available). (Langley/Brough)

MEETING ADJOURNED: at 2028 hours until the return of the Treasurer from overseas, and the ordinary meeting was commenced.

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MINUTES OF ADJOURNED 1986 ANNUAL MEETING

HELD AT: A.R.H.S. Library Room, Windsor Railway Station, on Friday, 18 July 1986.

PRESENT: Jack McLean, Jim Brough, David Langley, Alan Jungwirth, Colin Rutledge, Ian Mathews, Glen Cumming, Tony Kociuba, Bill Mercer, Bob Whitehead, Jon Churchward, Wilfrid Brook Visitor R. Bishop was welcomed to the meeting. There was also one other indecipherable attender.

MEETING RE-COMMENCED: at 2000 hours but was again adjourned due to the non attendanceof the Treasurer.

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MINUTES OF ADJOURNED 1986 ANNUAL MEETING

HELD ON: ?

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SIGNALLING ALTERATIONS

✳ 18.12.1987 RESERVOIR. The Loop Siding and Siding "B" were abolished. The right hand disc on post 11, and the disc signals on posts 13, 15 and 16 were removed. Points 11D and catch points 28 were abolished and points 11U, 24 and 28 were spiked normal. Levers Nos 5, 12, 13 and 34 were sleeved normal. Disc signal No 19 now leads to Nos 1 and 2 roads to post 14 only. (A 2813/86)

22.12.1986 WOODEND. Now switched in as a Double Line Block Post from 0500 hours til the clearence of No 8065 passenger Monday to Friday and on Saturdays from 0830 hours til the clearance of No 8040 passenger.

✳ 13.1.1987 BROADFORD. The Annett Lock was removed from lever 15 (Down Starting signal) due to the abolition of McDougall's Siding.

✳ WN2/1987 CAULFIELD. No 1 platform was reduced to 160m in length due to the expansion of commuter car parking.

WN2/1987 DONALD. Trains may stand across the Campbell Street level crossing for up to 40 minutes each day. Campbell Street is at the up end of the yard and is provided with flashing lights signals. Notice boards are erected indicating that another crossing, Hammill St., exists at the other end of the station. (A 1117/86)

WN2/1987 LETHBRIDGE. Commencing forthwith and until further notice, the speed of Up trains when exchanging staffs via the Automatic Staff Exchanger, must not exceed 80 Km/h. (A 1107/86)

WN2/1987 WORKING OF STAFF EXCHANGE BOXES AT STAFF STATIONS. Delete the second paragraph of clause 5a, first column, page 69, General Appendix, and as shown on page 106 of part 2 of the Two Man Crewing instructions and insert the following:-

5 (a) Second Paragraph.

When the staff exchange box is used for a train that is worked by a Driver and a Secondman, the Secondman may effect the exchange without inspecting the End of Train Marker.

Under these circumstances no train must be allowed to follow in the same direction until it has been ascertained that the previous train which used the staff exchange box is complete.

This may be ascertained by either:-

(a) The Train Controller requesting the Secondman to inspect the End of Train Marker, or

(b) The signalman at an attended station or signal box advising the Train Controller that the train is complete with the End of Train Marker.

Should a signalman commence duty at a staff station at which the Staff Exchange Box was used for a train, the signalman must not place the staff obtained from the Staff Exchange Box in the instruments until he has conferred with the Train Controller to ascertain that the train which used the Staff Exchange Box is complete with the End of Train Marker.

The Train Controller must record on the graph the time the information was received and given regarding trains being complete with the End of Train Marker. The signalman must also record in the train register book, the time, date and train for which the Train Controller advised was complete with End of Train Marker.

WN3/1987 ARDEN STREET SIDINGS. A scotch block has been provided in Siding "A" and is located 50 metres on the up side of the Arden Street level crossing. (A 21/87)

WN4/1987 FYANSFORD. A Hayes type derail has been provided at up end of No 2 road. (A 33/87)

1.2.1987 BLACKBURN-RINGWOOD. New signalling diagram No 53/86 became effective and diagram No 23/85 was cancelled. The alterations are - Medium Speed aspects have been provided on automatic signals L656, L672, L696, L712 and Mitcham post 24. (A 2043/87)

1.2.1987 ROCKBANK. Points 11 and 15 were spiked normal, Lockbars 10 and 16, and disc signals Nos 14 and 20 were abolished. Levers 10, 11, 14, 15, 16 and 20 were sleeved normal. Amend diagram No 6/76 accordingly. (A 46/87)

8.2.1987 ROCKBANK. The up home signal, post 4 lever 8, from No 2A road to No 2 road, was abolished. No 3 road was removed. Locking alterations to the signal frame took place. Levers Nos 8, 10, 11, 14, 15, 16 and 20 were removed. Amend diagram No 6/76 accordingly. (A 50/87)

8.2.1987 MOORABBIN. Automatic signal F554 was relocated 23 metres in the down direction. (A 2051/87)

12.2.1987 MARONG. All points and signals were abolished. (A 54/87)

12.2.1987 LEONGATHA-MEENIYAN-FOSTER-WELSHPOOL-BARRY BEACH-YARRAM. The electric staff sections Leongatha-Meeniyan-Foster, and the Staff and Ticket sections Foster-Welshpool-Yarram were abolished and replaced by one Train Staff and Ticket section Leongatha-Yarram. The Train Staff section Barry Beach Junction-Barry Beach was abolished and incorporated into the new staff section. A Master Key was provided at Leongatha for the section. The fixed signals at Foster and Welshpool will remain at this stage and will be secured at the reverse position. The up starting signal at Foster was converted to a non-track controlled signal and a notice board provided to control the speed of trains approaching the level crossing. (A 66/87)

WN6/1987 NORTH GEELONG "C" BOX-WARRENHEIP
Commencing forthwith and until further notice, the electric staff sections North Geelong "C"-Gheringhap, Gheringhap-Lethbridge, Lethbridge-Maredith, Meredith-Lal Lal and Lal Lal-Warrenheip will be converted into one section of Train Staff and Ticket on Saturdays to enable No 8143 "The Vinelander" on Sunday night to run via Meredith without the signalmen at Gheringhap, Lethbridge, Meredith and Lal Lal having to come on duty for one train.
One Electric Staff for each section is withdrawn and locked away, after which a message is sent to the Train Controller, Ballarat, to that effect. On receipt of these messages, the Train Controller, Ballarat, will suspend the Electric Staff system and authorise the signalman at North Geelong "C" Box to release the Train Staff for the section North Geelong "C"-Warrenheip. Before ceasing duty, the various signalmen must ensure that the down signals are cleared for "The Vinelander".
When 8143 arrives at Warrenheip, the signalman there sends a message

to the Train Controller, Ballarat, advising that the train has arrived complete at Warrenheip and that the staff has been locked away. When the signalmen resume on Monday mornings, the Train Controller, Ballarat, will suspend the Train Staff and Ticket system and Electric Staff working will be reintroduced. The system described above is to be only used for trin 8143 and only on Sunday nights, if any variation is to be adopted then the permission of the Safeworking Superintendent is required. Before ceasing duty, the various signalman must ensure that they clear the down signals at their station for 8143. This working will commence on 15.2.1987 (the first day of altered passeger train working and the first day of "The Vinelander" via North Geelong Loop.
(The only thing that is not mentioned is what is handed to the Driver of 8143 - the staff or a ticket. There is no mention of how the staff is tranferred back to North Geelong "C" Box if in fact the staff is used. Otherwise, this section woul seem to be a Staff and Ticket section where the staff is not ordinarily used - except to be shown to the Driver.)

21.2.1987 GLENHUNTLY-PARKDALE. Signalling diagram No 1/87 became effective and diagram No 55/86 was cancelled. The alterations are as follows:-

1. A co-acting signal was provided for automatic signal F 441.
2. Automatic signal F 451 was moved 5 metres in down direction.
3. Automatic signals F 467 and F 479 were relocated 6 metres in down direction.
4. Automatic signal F 493 was moved 12 metres in up direction.
5. Automatic signal FM 448 was moved 6 metres in up direction.
6. A co-acting signal was provided for automatic signal FM 460 and the signal was moved 26 metres in up direction.
7. Automatic signals FM 474 and FM 486 were moved 6 metres in up direction.
8. The 65 Km/h speed indicators were removed from all the above signals and also from automatic signals F 498 and F 506. (A 2087/87)

* 21.2.1987 CORIO-NORTH SHORE. The Distiller's Agency siding was abolished,and the points and switch lock were removed. (A 83/87)

* 21.2.1987 WERRIBEE. The connection to Siding "B" was abolished. No 5 points and No 10 dwarf signal were removed. (A 2090/87)

* 22.2.1987 SYDENHAM-GISBORNE. Signalling diagram No 30/86 became effective (A 80/87) and diagram No 33/82 was cancelled. The alterations in connection with the issue of the diagram were:-

1. At Sydenham, the interlocked gates and pedestrian wickets were abolished and replaced by Boom Barriers, which are automatic in their operation for main line movements.
2. 5P key operated switches and notice boards were provided on either side of the level crossing for movements along the siding through the crossing. The notice boards are lettered "TRAINS MUST NOT ENTER ROADWAY UNTIL BOOMS ARE HORIZANTAL".
3. Levers 18, 19, 20 and gate wheel 21 were taken out of use. (It is believed that they remain in the frame painted white.)
4. Push buttons and lever locks were provided on levers 12 & 16.
5. Switching facilities were provided and Sydenham is switched in as a Double Line Block Post on Mondays to Fridays only, from 0545 hours

til 1330 hours, and again from 1445 hours til No 8070 (2125 up Sunbury Rail Motor) clears St Albans at about 2150 hrs.

* 25.2.1987 ST. ARNAUD. The dock road was abolished.

* 25.2.1987 LITCHFIELD. No 2 road was abolished.

* 25.2.1987 MANGALORE. The Up Distant signal for the Goulburn Valley line, post 16 lever 5, was converted to motor operation. (A 88/87)

* 26.2.1987 LANG LANG-KORUMBURRA. The temporary Train Staff and Ticket section was replaced by large pattern Electric Staff. The temporary section was brought into use folowing the closure of Nyora as a staff station late in 1986. (A 108/87)

WN8/1987 GEELONG. A notice board has been erected at the entrance to the Car Wash siding prohibiting engines from passing that point. (A 105/87)

WN8/1987 INSTRUCTIONS FOR THE USE OF RACK VEHICLES. These instructions are additional to those already published to cover the HiRail track vehicles that are coming into use in Victoria. (As of writing this column, one such vehicle is operating at Seymour for the Broad Gauge Road Foreman.)

* WN8/1987 GRAMPIANS LOOP and WILLAURA LOOP. The new improved type of switch stand has been installed on the trailable points at both ends of Grampians Loop and at the up end of Willaura Loop. The new switch stand displays the following:-
(a) When the left hand road is the diverging road and the points are normal and locked, a reflectorised yellow fish-tailed arrow pointing in the direction in which the points are set.
(b) When the points are not correctly locked, two reflectorised red discs. In this situation, a train travelling toward the points in the trailing direction would find two white reflectorised discs showing and although the train is permitted to pass through the points, the Train Controller must be advised immediately and he will advise the Signal Supervisor, Ararat.
NOTE: Commencing forthwith, the temporary speed limit of 20 Km/h for trains entering these loops is increased to 40 Km/h. (A 89/87)

WN8/1987 TRARALGON. The speed limit for trains diverging through No 52 points at Traralgon is 25 Km/h and speed boards are erected. (A 86/87)

27.2.1987 OUYEN-REDCLIFFS. From the date and until further notice, the following instructions will apply for the running of specified trains between Ouyen and Redcliffs on Fridays, Saturdays, Sundays and Mondays, the following alterations to the safeworking systems will take place.
The electric staff sections Ouyen-Hattah-Carwarp-Redcliffs will be temporarily cancelled and one section of Train Staff and Ticket shall be introduced. The signalman at Hattah shall withdraw a staff from either section under the 4.2.2 (Release Staff for Shunting) signal and shall securely lock them away, the signalman at Carwarp shall do the same for the section to Redcliffs. When this has been done, both signalmen shall send the appropriate message to the Train Controller, Ballarat, who shall then authorise the signalman at

Redcliffs to release the Train Staff. The following trains are the authorised trains to use the long section and the table shows whether on staff or ticket.

FRIDAYS	- 9174	Conditional Goods (no schedule shown)	Ticket
	- 8110	"The Vinelander" to Melbourne.	Staff
SATURDAYS	- 239	1505 Goods ex Ballarat	Ticket
	- 8143	"The Vinelander" from Melbourne.	Staff
SUNDAYS	- 9118	1530 Express Goods to Melbourne.	Ticket
	- 8110	"The Vinelander" to Melbourne.	Staff
	- 239	2050 Goods ex Donald.	Staff
MONDAYS	- 228	0130 Goods to Geelong.	Staff
	- 8143	"The Vinelander" from Melbourne.	Staff
	- 8148	"The Sunraysia" to Melbourne.	Ticket

When No 8148 arrives at Redcliffs on Monday morning, the signalman must send the ACRE message to the signalman at Redcliffs, who must them securely lock away the Train Staff. He then sends the approapriate message to the Train Controller, Ballarat, and he may authorise the signalmen at Hattah and Carwarp, when they come on duty, to return the electric staffs to their respective instruments under the 2.2.4 (Shunting Staff Replaced) signal.
A master key has been provided in a glass fronted case at Ouyen to enable the staff locked points at Kiamal and Nowingi to be operated during the time that the Train Staff and Ticket working is in force. The signals at Hattah and Carwarp, during the Train Staff and Ticket working, will be secured at the "All Right" position. (A 68/87)

WN8/1987 WARRENHEIP. The automatic staff exchanger will be in use for certain trains travelling in the up direction to the Geelong line. The passenger trains are No. 8146 (Mon-Fri), No. 8110 (Mon., Fri., and Sat.) and No. 8148 (Mon., Tue. and Wed.).Any goods trains that are hauled by engines with a staff exchanger will also use the exchanger at Warrenheip. (A 90/87)

WN9/1987 GARFIELD and BUNYIP. Signalling Diagram No 26/85 was issued and diagram No 13/65 was cancelled. (A 114/87)

4.3.1987 DONNYBROOK LOOP. The following home signals were renumbered:-
Up Home Arrival signal No 12/8 renumbered DBK/8.
Up Home Departure signal No 12/U4 renumbered DBK/U4.
Up Home Departure signal No 12/4 renumbered DBK/4.
(A 132/87)

* WN10/1987 MAFFRA-COWWARR. The Electric Staff sections Maffra-Heyfield, Maffra-Tinamba, Tinamba-Heyfield and Heyfield-Cowwarr were abolished and inlieu a Staff and Ticket section Maffra-Cowwarr was established. The signals and plunger locking at Tinamba and Cowwarr was abolished and replaced by WSa levers. The signalling at Heyfield is unchanged for the time being.

WN10/1987 MANGALORE. The down staff exchanger was relocated to a new position 84 metres on the DOWN side of the signal box and on the down line.

*18.3.1987 WARRACKNABEAL. The up home (light) signal "H" was relocated 692 metres in the down direction to the down side of the Henty Highway. The signal was interlocked with the flashing light cycle.

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VICTORIAN RAILWAYS
THREE POSITION SIGNALS
DATES OF INSTALLATION

The following list of Three-position signalling installation dates were originally published in 'Clear Normal Speed' and were compiled by John Sinnatt and Jack McLean. This updated list is the second list published in 'SOMERSAULT' and was compiled by David Langley.

COUNTRY LINES

SOUTH WESTERN

EAST LINE (S) - Original Main Line.	
Newport "B" - Manor	1928 - Mar 15 (1)
Manor - Lara	1928 - Jul 15
Lara North Geelong "A"	1928 - Sep 4
WEST LINE (S) - (2)	
Newport "B" - Rock	1967 - Oct 22
Rock - Laverton	1965 - May 30
Laverton - Werribee	1968 - Sep 1
Werribee Station	1973 - Oct 28
Werribee - Little River	1970 - Oct 25
Little River Station	1972 - Oct 8 (9)
Little River - Lara	1981 - Jul 27
Lara Station	1973 - May 25
Lara - Corio	1981 - Sep 19
Corio - North Geelong "A"	1959 - Feb 8
Geelong "A" Box	1979 - May 12 (2A)

WESTERN

Sunshine - Rockbank (S)	1976 - Oct 4 (10)
Sunshine - Deer Park West Jcn (S)	1976 - Oct 4 (11,12)
Parwan Loop	1984 - Feb 4
Bacchus Marsh - Ballan (S)	1963 - Apr 7 (13)
Bungaree Loop	1985 - Mar 29
Ararat Station (down end)	1984 - Nov 10 (18?)
Ararat - Pyrenees Loop - Great Western Loop	1985 - Jun 14 (18)
Great Western Loop	1984 - Oct 30 (18)
Great Western Loop - Deep Lead Loop	1985 - Jul 26 (14)
Deep Lead Loop	1984 - Dec 10 (18)
Deep Lead Loop - Lubeck Loop	1985 - May 10 (19)
Lubeck Loop - Murtoa	1985 - Jan 29 (19)
Murtoa Station	1984 - Oct 8 (19)
Murtoa - Murtoa Loop - Horsham	1983 - Nov 11 (14)
Horsham Station	1975 - Mar 13 (15)
Horsham - Dimboola	1983 - Dec 11 (14)
Pimpinio Loop	1982 - Jul 25 (15)
Dimboola Station	1983 - Nov 26 (16)
Dimboola - Dimboola Loop - SL - Nhill	1984 - Mar 3 (14)
Salisbury Loop	1970 - Aug 6 (16,17)
Nhill Station - Diapur Loop	1984 - Apr 6 (14)
Diapur Loop - Leeor Loop - Wolseley	1984 - May 1 (14)

NORTHERN & MIDLAND

Castlemaine "A" - Maldon Junction (S)	1926 - Nov 28 (3)
Maryborough Station	1969 - Jun 28

NORTH-EASTERN (BROAD GAUGE)

Somerton Station	1962 - Aug 5
Tallarook - Goulburn Junction	1925 - Aug 16
Goulburn Junction - Seymour "A" (S)	1925 - Aug 16
Goulburn Junction - Seymour "A" (D)	1942 - May 17
Goulburn Junction - Seymour "A" (S)	1961 - Nov 26 (4)
Wodonga - Coal Sidings Box (S)	1964 - May 10 (5)
Coal Sidings Box - Albury South (S)	1962 - May 14 (5)

NORTH-EASTERN (STANDARD GAUGE)

Spencer Street - South Dynon Junction (S)	1962 - Apr 12
West Footscray Junction - Somerton Loop (S)	1962 - Apr 15 (6)
Somerton Loop - Broadford Loop (S)	1962 - Jul 9 (6)
Broadford Loop - Seymour Loop (S)	1962 - Apr 8 (6)
Seymour Loop - Benalla Loop (S)	1962 - Aug 20 (7)
Benalla Loop - Alumatta Loop (S)	1963 - Feb 4 (7)
Alumatta Loop - Wodonga (S)	1962 - Mar 18 (8)
Wodonga - Coal Sidings Box (S)	1964 - May 10 (5)
Coal Sidings Box - Albury South (S)	1962 - May 14 (5)

EASTERN

Dandenong - Narre Warren	1956 - Nov 18
Narre Warren - Berwick	1962 - Feb 25
Berwick - Officer	1956 - Mar 13
Officer - Pakenham	1955 - Feb 27
Pakenham Station	1954 - Dec 19
Pakenham - Nar Nar Goon	1954 - Oct 10
Nar Nar Goon - Tynong	1953 - Jun 28
Tynong Station	1957 - Apr 7
Tynong - Bunyip	1956 - Aug 19
Drouin Station	1958 - Jul 29
Yarragon - Trafalgar	1958 - Mar 23
Trafalgar - Moe	1960 - Jun 27
Moe - Morwell (S)	1966 - Jul 3

NOTES (S) - Single (two-way) Line, (D) - Double Line.

1. Rock & Drome Loops remote controlled 1931 (Aug 16 & Oct 18).
2. Dates include re-signalling of parallel sections of East line.
2A. Maitland Street Sidings Junction 1973 - Aug 12.
3. Abolished 1952 (Mar 4).
4. Dysart-Seymour.
5. Lever Locking & Track Control.
6. CTC from Spencer Street 1963 (Mar 4).
7. CTC from Spencer Street 1963 (Feb 4).
8. CTC from Spencer Street 1963 (Jan 21).
9. CTC from Werribee 1973 (Dec 7).
10. North Line Sunshine-Deer Park West Junction.
11. South Line.
12. Deer Park & Deer Park West Junction CTC from Sunshine Box.
13. Bank Box Loop lengthened and resignalled 1982 - Feb 11.
14. CTC from Spencer Street.
15. CTC from Spencer Street 1983 - Dec 11.
16. CTC from Spencer Street 1984 - Mar 3.
17. Lengthened and resignalled 1984 - Mar 3.
18. CTC from Spencer Street 1985 - Jul 26.
19. CTC from Spencer Street 1985 - Jul 20.

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VICTORIAN RAILWAYS
THREE POSITION SIGNALS
DATES OF INSTALLATION

SUBURBAN LINES
PORT MELBOURNE and ST. KILDA

Flinders Street "A" Box - Inglis Street	1919 - Jun 8	
Inglis Street - Port Melbourne	1969 - Dec 14	(19)
Flinders Street "A" Box - St Kilda	1919 - Dec 7	
St Kilda Station	1928 - Oct 14	(1)

SANDRINGHAM

Flinders Street "E" Box - Richmond	1918 - Sep 1	
Richmond - Prahran	1915 - Oct 4	
Prahran - Ripponlea	1917 - Dec 16	(2)
Ripponlea - Elsternwick	1918 - May 13	
Elsternwick - Brighton Beach	1926 - Jul 18	
Brighton Beach - Sandringham	1926 - Dec 19	

CAULFIELD THROUGH LINES AND FRANSKTON

Flinders Street "E" Box - Richmond	1919 - Jun 1	
Richmond - Hawksburn	1915 - Oct 4	
Hawksburn - Caulfield	1921 - Dec 18	
Caulfield Power Box	1933 - Nov 26	
Caulfield - Glenhuntly	1933 - Nov 26	
Glenhuntly Station (not yet done)		
Glenhuntly - Bentleigh	1974 - Nov 10	
Bentleigh - Patterson	1961 - Jun 25	
Patterson - Highett	1958 - Jan 19	
Highett - Cheltenham	1972 - Dec 12	
Cheltenham - Parkdale	1985 - Dec 7	
Parkdale - Mordialloc	1986 - Apr 5	
Mordialloc Station (not yet done)		
Mordialloc - Chelsea	1977 - Jan 23	
Chelsea - Carrum	1976 - Dec 19	
Carrum - Frankston	1976 - Oct 29	

CAULFIELD LOCAL LINES AND DANDENONG

Flinders Street "E" - South Yarra	1960 - May 2	
South Yarra - Hawksburn	1915 - Oct 4	
Hawksburn - Caulfield	1921 - Dec 18	
Caulfield - Carnegie	1933 - Nov 26	(3)
Carnegie - Oakleigh "A"	1940 - Dec 8	(4)
Oakleigh Station	1975 - May 11	
Oakleigh "B" - Clayton	1970 - Dec 6	
Clayton - Westall	1971 - Jul 25	
Westall - Springvale	1972 - Feb 20	
Springvale Station	1975 - Feb 16	
Springvale - Dandenong	1971 - May 9	(28)
Dandenong Station	1929 - Jun 23	

LILYDALE AND BELGRAVE

Flinders Street "E" - Richmond	1919 - Jun 1	
Richmond - East Richmond	1919 - Aug 31	
East Richmond - Hawthorn	1922 - Oct 15	(5)
Hawthorn Station	1925 - Jun 14	
Hawthorn - Camberwell	1922 - Oct 29	(5,6)

Camberwell Station	1924 - Jun 22
Camberwell - Canterbury	1922 - Nov 5 (5,8)
Canterbury - Surrey Hills	1927 - Mar 30
Surrey Hills - Box Hill	1929 - Oct 20
Box Hill Station	1930 - Jun 15
Burnley Through Lines	
Flinders St "D" - Richmond	1973 - Feb 4
Richmond - Burnley	1967 - Jan 9 (20)
Centre Line (S) (7)	
Burnley - Hawthorn	1972 - Aug 13
Hawthorn - Camberwell	1963 - Dec 8
Camberwell - East Camberwell	1964 - Nov 8
East Camberwell - Box Hill	1971 - Dec 19
Box Hill - Blackburn	1958 - Jul 13 (26)
Blackburn - Mitcham	1960 - Nov 13
Mitcham - Ringwood	1958 - Sep 7
Ringwood Station (up end)	1958 - Oct 26
Ringwood Station (dn end)	1973 - Dec 2
Ringwood - Croydon (S)	1973 - Nov 11
Ringwood - Croydon (D)	1984 - Jun 30
Croydon - Mooroolbark	1984 - Jun 30
Mooroolbark - Lilydale (S)	1985 - Jun 29
Lilydale Station	1985 - Jun 15
Ringwood - Bayswater (S)	1974 - Jun 30
Ringwood - Bayswater (D)	1982 - Feb 11
Bayswater Station	1982 - Sep 11
Bayswater - Ferntree Gully	1977 - Jul 24
Ferntree Gully - Upper Ferntree Gully (S)	1964 - Mar 18
U.F.G. - Belgrave (S) (762mm gauge)	1921 - Dec 22 (9)
U.F.G. - Belgrave (S) (1600mm gauge)	1964 - Mar 17

GLEN WAVERLEY

Burnley - Heyington	1926 - Aug 8
Heyington - Tooronga	1957 - Dec 15
Tooronga Station	1966 - May 29
Tooronga - Glen Iris	1957 - Nov 10
Glen Iris - Darling	1956 - Mar 18
Darling Station	1976 - Aug 29
Darling - Eastmalvern	1956 - Jun 24
Eastmalvern - Mt Waverley (S)	1958 - Sep 7 (10)
Eastmalvern - Mt Waverley (D)	1964 - Jun 28
Mt Waverley - Syndal	1958 - Sep 7
Syndal - Glen Waverley (S)	1958 - Sep 7 (10)
Syndal - Glen Waverley (D)	1964 - Nov 29 (1)

ALAMEIN

Camberwell - Riversdale (S)	1955 - Jul 31(7,11)
Camberwell - Riversdale (D)	1959 - Nov 29 (12)
Riversdale - Hartwell	1955 - Jul 31
Hartwell - Ashburton	1962 - Nov 8
Ashburton Station	1977 - Aug 2 (21)

EPPING and HURSTBRIDGE

Flinders Street "D" Box	1926 - Apr 11
Flinders Street "D" - Clifton Hill	1921 - Apr 3
Clifton Hill Station (incomplete)	
Clifton Hill "B" - Northcote Loop Junction	1926 - Sep 19

Northcote Loop Junction - Merri	1961 - Jul 30	
Clifton Hill "B" - Westgarth (S)	1926 - Sep 19	(7)
Westgarth Station	1968 - Jun 30	
Westgarth - Fairfield	1964 - Sep 1	
Fairfield Station	1969 - Nov 2	
Fairfield - Alphington	1964 - Sep 2	
Alphington Station	1966 - Jul 17	
Alphington - Ivanhoe	1951 - Dec 16	
Ivanhoe - Heidelberg	1949 - Jun 19	
Heidelberg Station (incomplete)		
Heidelberg (dn end) - Macleod	1958 - Dec 14	
Macleod - Greensborough	1979 - Aug 12	

FLINDERS STREET STATION

"A" Box	1980 - Dec 12	
"B" Box	1982 - Mar 27	
"C" Box	1982 - Jun 18	
"D" Box	1926 - Apr 11	
"E" Box	1919 - Jun 1	
"B", "C", "D" Boxes - "E" Boxes (all lines)	1918 - Dec 15	

FLINDERS STREET - NORTH MELBOURNE

Flinders Street "A" - Viaduct Junction	1917 - Dec 2	
North Viaduct and South Viaduct lines.		
Flinders St - Spencer Street No 2 Box (25)		
Through Suburban lines	1978 - Dec 11	(29)
Loop Viaduct lines	1980 - Nov 16	(30,7)
Spencer Street No 2 - Flinders St "D" & "E"		
City Circle & Clifton Hill U'ground Loop	1982 - Oct 31	(31)
Burnley Underground Loop		(31)
Northern Underground Loop	1984 - Apr 1	(27,31)
Caulfield Underground Loop		(31)
Viaduct Junction - Spencer Street No 1 Box	1917 - Dec 2	(13)
Viaduct Junction - Franklin Street	1924 - Aug 17	(14)
Viaduct Jcn - Franklin Street Special lines	1925 - Dec 13	
Spencer Street South End Box	1962 - Sep 21	
Spencer Street No 1 Box	1961 - Oct 14	
Spencer Street No 1 Box - Franklin Street	1924 - Aug 17	
Franklin Street - North Melbourne	1924 - May 25	

MELBOURNE GOODS YARD

West Tower (replacing Weighbridge Junction)	1968 - Dec 1	
Melbourne Hump Yard	1968 - Dec 29	

UPFIELD

North Melbourne - Macaulay	1928 - Jun 10	
Macaulay - Royal Park	1972 - Apr 8	
Royal Park - Jewell	1971 - Aug 22	

BROADMEADOWS

North Melbourne - Kensington (Country Lines)	1918 - Oct 27	
North Melbourne - Kensington (Suburban Lines)	1924 - Jan 20	
Kensington - Essendon	1918 - Jun 17	(15)
Essendon Station	1969 - Nov 16	
Essendon - Broadmeadows	1965 - Nov 15	

ST. ALBANS

North Melbourne - South Kensington	1928 - Jun 28	
South Kensington Station	1928 - Oct 21	
South Kensington - Footscray	1976 - Nov 21	(22)
Footscray - West Footscray	1927 - Oct 15	
West Footscray - Sunshine	1929 - Oct 11	
Sunshine Station	1972 - May 21	(23)
Sunshine - Albion	1929 - Jul 1	
Albion - St Albans	1930 - Feb 15	
St Albans Station	1930 - Aug 1	

WILLIAMSTOWN AND LAVERTON via ALTONA

South Kensington - Footscray	1927 - Aug 7	
Footscray Station	1930 - May 4	
Footscray - Yarraville "A" Box	1927 - Aug 7	
Yarraville "A" Box - Newport	1929 - Mar 24	
Newport Station	1967 - Jul 24	(23)
Newport "A" Box - Newport "B" Box	1946 - Mar 31	
Newport "B"Box - Altona Junction	1967 - Oct 22	(25A)
Altona Junction - Altona (S)	1967 - Oct 22	
Altona - Westona - Laverton	1985 - Apr 11	

OTHER LINES

Newmarket - Flemington Racecourse	1919 - Jul 5	(16)
South Kensington - West Footscray Goods lines	1927 - Oct 16	
Albion - Broadmeadows (D)	1929 - Jul 1	
Albion - Broadmeadows (S)	1961 - Nov 25	(17)
Spotswood - Newport Power House (S)	1947 - Dec 18	(24)
Franklin Street - Reversing Loop Junction	1962 - Aug 10	(18)

NOTES (S) - Single line (D) - Double line

1. Points work automatically when box is closed.
2. First three-position light signal - B210 - in cutting near Windsor, originally co-acted with semaphore high up on other side but now abolished.
3. First searchlight signal - No 23 at Caulfield.
4. First large scale installation of searchlight signals.
5. First large scale installation of ordinary light signals.
6. Up and Down lines resignalled 1963 - Jul 14 & Nov 10.
7. Lever Locking and Track Control.
8. Re-signalled 1964 - Nov 8.
9. Abolished 1930 - Aug 28.
10. CTC from Eastmalvern until line doubled.
11. LL&TC 1924 - Nov 2 but two-position signals at Riversdale.
12. LL&TC retained on up line after duplicating.
13. Via old suburban island platform.
14. Via new suburban island platforms.
15. First four-aspect signalling - Kensington-Newmarket.
16. Two-position automatic (light) signals.
17. CTC from Spencer Street 1963 - Mar 25.
18. Victorian Gauge Engine Flyover road.
19. Graham-Port Melbourne singled and now part of Graham yard.
20. Up line 1966 - Aug 1.
21. Ashburton-Alamein (single) now part of Ashburton yard.
22. New main suburban lines.
23. Main lines only.
24. Signals abolished 1972 - Aug 15.

25. Spencer Street No 2 Box replaced Viaduct Junction Box 1978 - Nov 20.
25A. Remote control from Newport. Is this the entry?
26. Re-signalled for closer headways 1980 - Oct 19.
27. Northern Underground Loop signals commissioned 1984 - Jan 29.
28. Resignalled for improved headways 1985 - Aug 10.
29. Lines caried on new South Viaduct.
30. Re-signalling of North and (old) South Viaduct lines for two-way running (four lines).
31. Control of Underground Loops transferred to Metrol 198x - xxx xx

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VICTORIAN RAILWAYS
KOROIT-HAWKSDALE-PENSHURST SECTIONS
Working of No 5 Goods and No 7 Rail Motor
(See WTT S. 70/28)

In connection with the inauguration of the new Time Table between Warrnambool and Hamilton (See S. 70/28), the following special instructions governing the working of No 5 Goods and No 7 Rail Motor on Mondays between Koroit and Hawksdale, and between Hawksdale and Penshurst will apply.

In the event of the "ACRE" message for No 5 Goods train on Mondays not being received by Koroit prior to No 7 Rail Motor being due to depart from that station, authority is granted for No 7 Rail Motor to be despatched on a Notice of Train Ahead after an interval of 40 minutes has elapsed from the departure of No 5 Goods from Koroit, the Guard must also be advised as to the time the previous train departed.

The Driver and Guard of No 5 Goods must be verbally instructed by the signalman at Koroit that in the event of their train not reaching Hawksdale before 2pm, and an interval of 40 minutes has elapsed from the time of departure of their train from Koroit, the Rail Motor will be despatched from Koroit on a Notice of Train Ahead. Authority is also granted for No 5 Goods to be despatched from Hawksdale on a Notice of Train Ahead after an interval of 15 minutes from the departure of No 7 Rail Motor from that station.

The Driver and Guard of No 7 Rail Motor must be verbally instructed by the signalman at Hawksdale that No 5 Goods will follow from Hawksdale after the prescribed interval has elapsed.

If No 5 Goods for the section Koroit-Hawksdale, or No 7 Rail Motor for the section Hawksdale-Penshurst is stopped in the respective sections, or travels at such a speed that might result in the following train overtaking it, Regulation 229 must be promptly complied with.

It must be distinctly understood that the above modification of the Rukes and Instructions referred to only applies to the above-mentioned trains, and the sections mentioned herein. All other Rules and Instructions in respect of the working of these trains on Lines worked under the Train Staff and Ticket system must be strictly complied with.

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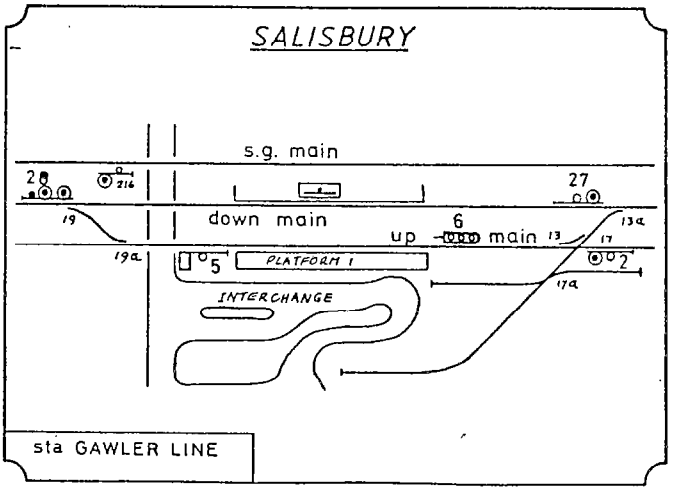
SIGNALLING NEWS FROM SOUTH AUSTRALIA

The following items of news regarding South Australia have been taken from various issues of 'THE RECORDER', the A.R.H.S. Magazine.

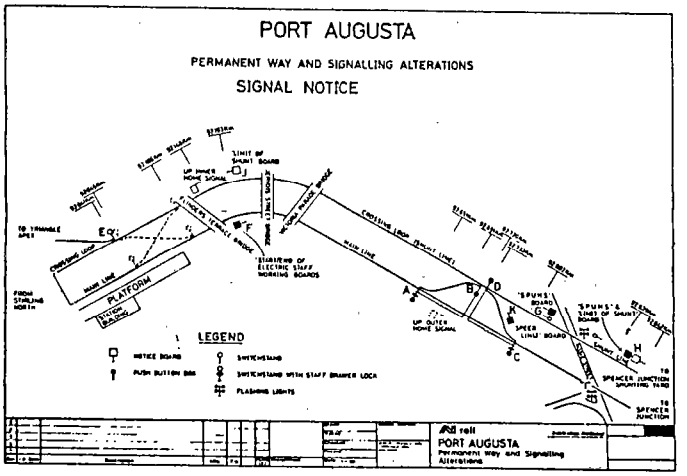
SALISBURY BUS/RAIL INTERCHANGE

On 17 December 1985, the new interchange terminal at Salisbury was brought into use. The interchange is on eastern side of the up platform and comprises bus parking bays, new station office, new passenger shelters and seats on the platform and reconstruction of the pedestrian underpass. A feature of the station is that whereever possible, all trains use the up platform and to this end, a new crossover has been provided at the Adelaide end facing for down trains. The switches are provided with McKenzie and Holland M23A dual control switch machines and the whole layout is controlled from the mechanical frame at Salisbury. The signal controlling down moves from the up platform is a three position dwarf colourlight signal. The rail siding serving the grain handling facility at Heidenreich Flour Mill was reconstructed by the STA to allow space for the bus turnaround area.



PORT AUGUSTA

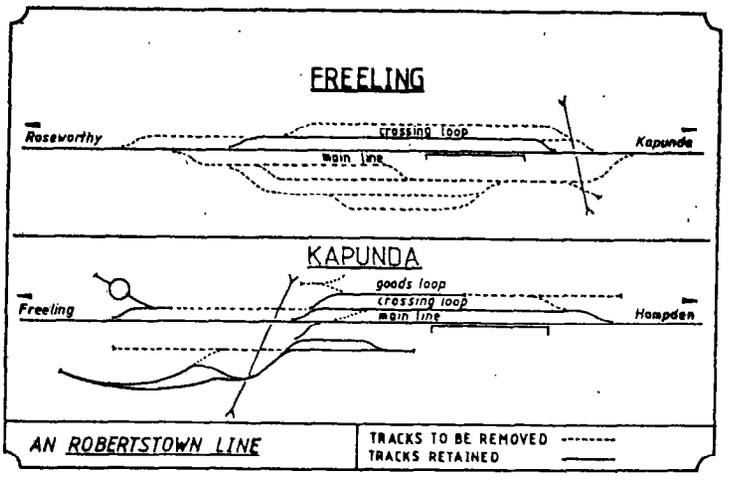
The famous delta crossover at the down end of the station has been abolished andreplaced by two new crossovers near Tassie Street level crossing. The effect of this is to extend the crossing loop by 545m. The switches 'A' and 'C' are equipped with switch stands and staff drawer locks and are rodded to switches 'B' and 'D' respectively. On the main line the existing Electric Train Staff section will be extended from the existing Up Outer Home signal to the notice board at point F while on the crossing loop the present method of Staff/Ticket working and the loop between the two existing "Limit of Shunt" boards at H and J will still apply. This alteration took place in November 1985.



STA SIGNALLING SYSTEM

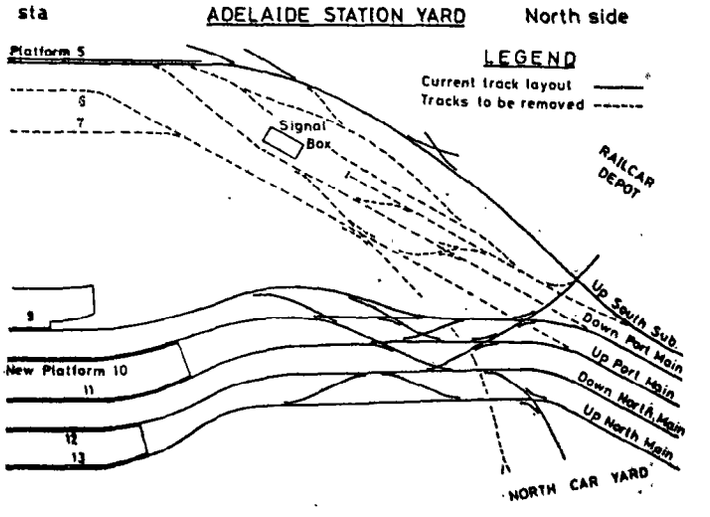
The contract for the manufacture and supply of a solid state interlocking system for Adelaide yard has been awarded to joint ventures - O'Donnell Griffin of South Australia and M.L. Engineering of Plymouth, UK. This installation will be the first of its type in Australia that uses micro-computer technology for its

On 26 September 1986, track alterations were made to KAPUNDA yard and as a result, the passing siding has standing room of about 300 metres. The new dead end goods siding is about 90 metres long. Access to the turntable has been retained.



FURTHER ADELAIDE (NORTH TERRACE) STATION RE-ARRANGEMENT

On the weekend of 6 and 7 September 1986 the Adelaide Yard was divided into North and South when the line to the North Car Yard was removed from the southern section, i.e. platforms 1-7. Until the commissioning of new platform 9 on 28 September 1986, railcars wishing to enter the depot from the northern platforms had to travel out to Keswick and return along the main South line.



At the station, Stage 1 of the concourse reconstruction at the south end isnow complete, and the Men's toilets and the stairs to North Terrace are in use. Stage 2 reconstruction has now commenced.

Another stage in the ASER development was reached over the weekend of 27 and 28 September 1986. Originally scheduled for commissioning a week earlier, the new platform 9 and eastern end of platform 10 were opened to passenger services from 29 September 1986. The existing platforms 6 and 7 were closed for reconstruction.

To coincide with the commissioning of platform 9, the new 'Paid Concourse' was opened for passenger use. Passengers now pass through gates in the blue tubular steel 'fence' stretched between four barrier 'boxes' which provide a comfortable work station for the ticket inspectors.

WASLEYS

On 29 September 1986, the railway yard at Wasleys was closed and all signalling removed. The section is now Roseworthy-Hamley Bridge.

PETERBOROUGH LINE

On the weekend of 7 & 8 October 1986, extensive re-arrangements were brought into use at ROSEWORTHY. The goods siding on the western side of the main line was closed, the sidings serving the grain silos will remain. The mechanical

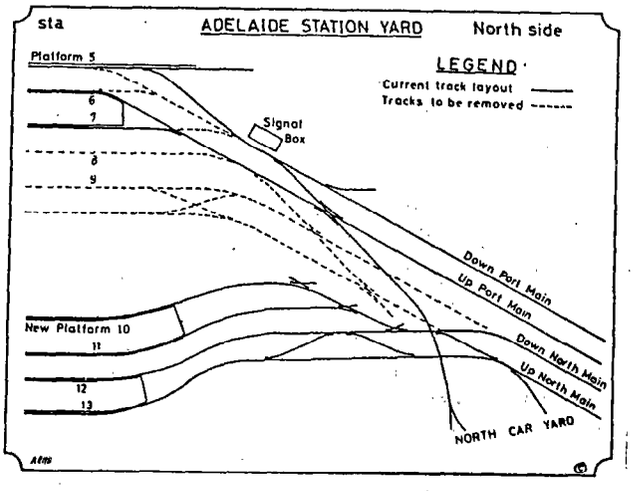
safety system. In addition to providing greater reliability than exists at present, the new equipment has been developed to such an extent that the systems nerve centre occupies space the size of a refridgerator, instead of an entire room as with the present systems. At the centre of the network, three microcomputers will work independently checking each other constantly. Two of the three must always reach the same conclusion, otherwise the system will shut down until the fault can be rectified.

GRANGE STATION

The old station, the remanents of street railways in South Australia, was closed on 9 March 1986 when trains commenced to use the new platform located just on the east side of Military Road crossing.

ADELAIDE (NORTH TERRACE) STATION RE-ARRANGEMENT

On 5 May 1986, the first of the new platforms at Adelaide, built as part of the ASER Project, were brought into service. New platforms 10, 11, 12 & 13 were opened and existing platforms 8 & 9 were closed. The new trackwork opened as a result of these alterations were the first major re-arrangement of the trackwork in the Adelaide yard since the existing layout was laid out by Mr Webbs regime in the 1920s. Platform 10 has a standing room of 140 metres, platform 11 is 200 metres and platform 12 & 13 have 175 metres each. Some of the switches in the new trackage are clamped because they will not be required until further trackwork has been completed. Those switches which are operational are equipped with Electro-hydraulic power-operated Railclamp Locks and Electric power-operated McKenzie and Hollands type M3 (modified) and GRS Model 4 switch machines. The diagram shows clearly the present new trackage and those tracks which are being removed.



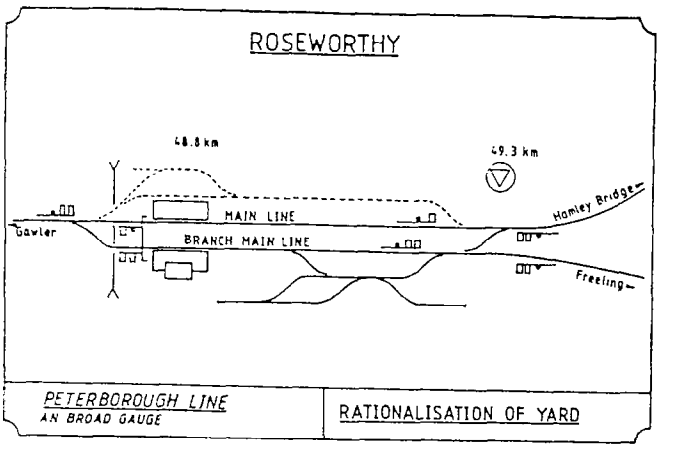
ROUTE SELECTION FOR TRAMS

The switching system to be employed at the junction of the Glengowrie Depot access tracks will be switched with a driver-operated route selection system. When a Motorman on the main line wishes to take the tramcar into the depot, a switch in the cabin of the car will be activated when a specific point on the track is reached. A transmitter located in the centre of the tram then sends a signal to a receiver positioned alongside the track. The 'Route Request' signal activates the relevant switches and via an interface system operates traffic signals on Maxwell Terrace. Once a tram has passed the switches will be automatically re-set to allow services to continue along the main line. Arrow light signals by the line show Motormen whether the route is set for the main or depot tracks. The system will be able to be manually operated in an emergency.

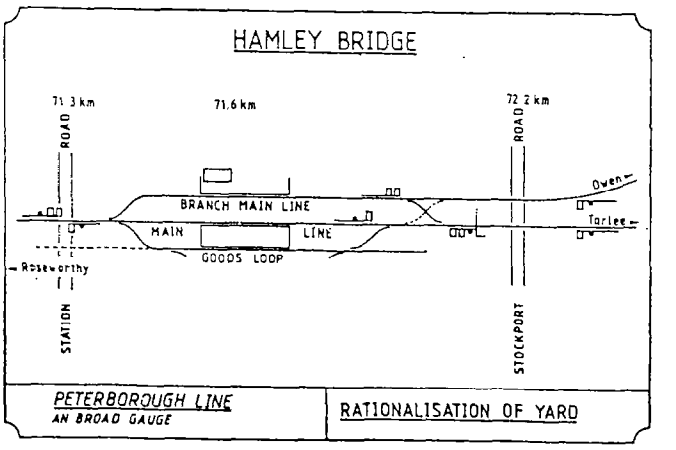
ROBERTSTOWN LINE

On 15 August 1986, all tracks at FREELING except the main line and passing siding were closed. The standing room in the passing siding is 280 metres. The station does not have a grain silo and AN appear to have a programme of yard reductions to suit their new direction of only being a grain transporter (just like Victoria-Ed).

lever frame and remote operation of the points was abolished, and all points are now fitted with switch stands. Certain main line signals have been retained and push buttons are located at each signal for operation of the signal during shunting. However, for main line moves, the signals will clear automatically.



On the weekend of 28 & 29 October 1986, a similar rationalisation was carried out at HAMLEY BRIDGE. The mechanical signal cabin was 'thrown out of use and (presumably) subsequently removed' and switch stands are fitted to all points. Certain absolute signals in the yard have been retained, working in a similar manner to those at Roseworthy.



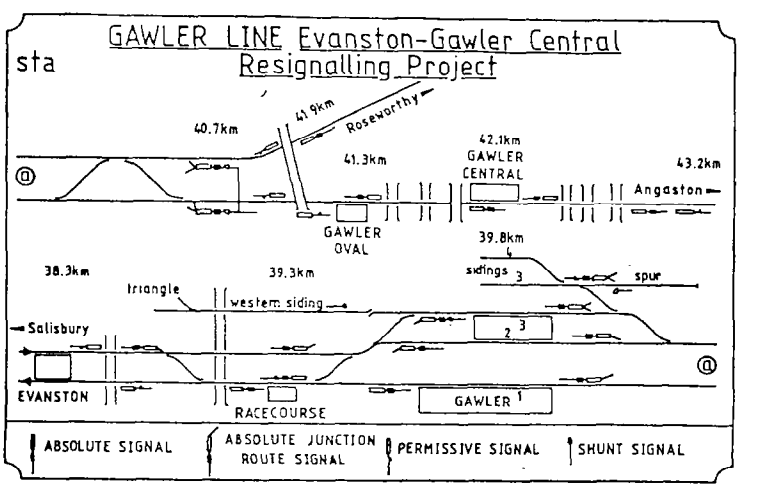
MOUNT GAMBIER LINE

On 4 November 1986, the Electric Train Staff system on the Mount Gambier line between Wolseley and Penola was withdrawn and the following day saw the remaining equipment removed, to be replaced by the ubiquitious Train Order system. The staff drawer locks at Kybylolite have been replaced by Hand Plunger Locks and the staff drawer locks at South East Meat Ltd. siding, the Stock Sale Yard siding and the Oil Siding (in the section Hynam-Naracoorte) have been replaced by Hand Operated Switch machines. At Penola and Kalangadoo, the flashing lights and gong are manually operated for shunting and pasing movements but work automatically for through main line moves.

NEW SIGNALLING AT GAWLER

The first stage of the metropolitan resignalling project involving the introduction of colourlight route signalling was commissioned between 8 and 10 November 1986 on the Gawler main line in the area between Clarke Road level crossing near Gawler Racecourse to the north side of Gawler station. Eight McKenzie and Holland type M3 power operated switch machines have been installed along with 20 absolute and 6 permissive signals. Between the decommis-

(continued on p 41)



PANGELA CROSSING LOOP

by Ken Date

Weekly Notice No 40 of 1986 carried details of the closure of yet another location of safeworking interest in NSW, namely Pangela on the Main Northern line.

Pangela (aboriginal for "kangaroo") is located 359Km from Sydney, between Murrurundi and Ardglen and opened on 5 December 1908. It was one of a number of crossing loops opened between Gosford and Werris Creek during 1908-09 to cope with a dramatic increase in traffic levels at that time.

For its first few weeks of operation, Pangela was merely a "follow on" station. Electric Tablet instruments were provided for use on the sections Murrurundi-Pangela (round pattern) and Pangela-Ardglen (Vee pattern), and on 9 February 1909, Pangela became a fully fledged crossing loop with Up and Down main line working. There were platforms on both lines and a signal box on the up side.

Pangela's career almost ended only a few years later. Weekly Notice No. 49 of 1916 advised that Pangela, along with a number of other Northern line stations, would close on 6 December 1916. However, one week later Weekly Notice No. 50 cancelled that instruction.

All was peaceful until 29 April 1940 when the Down and Up line working was abolished and replaced by Main and Loop working. The Down line became the Main and the Up line the loop. Additional Home and Starting signals were provided and this necessitated the installation of a new 20 lever frame in the signal box.

On 28 October 1947 a new signal box was brought into use on the Down side of the Main line, opposite the site of the original box. This change caused a re-numbering of all points and signals. The new box was itself replaced some years later after it had been destroyed by fire.

In many ways Pangela was the archtypical country signal box, examples of which are rapidly disappearing. A somewhat remote location, a busy single line and nothing to occupy the signalman other than ensuring the safe passage of trains that came under his charge characterised Pangela as a fine example of a fully signalled manually operated crossing loop. However, Pangela had some operated crossing features. The Up Distant signal was of the motorised, lower quadrant variety. Ardglen's Down Distant was a similar model and their withdrawal (Ardglen's Distant was replaced by a colour light "stick") has seen the almost total disappearance of this type of signal from NSW. Also, in all its years of existence, Pangela never received the benefit (?) of electricity! (staff instruments work from batteries). Finally, of course, the view from Pangela down the valley towards Murrurundi was more spectacular than most signal boxes could claim.

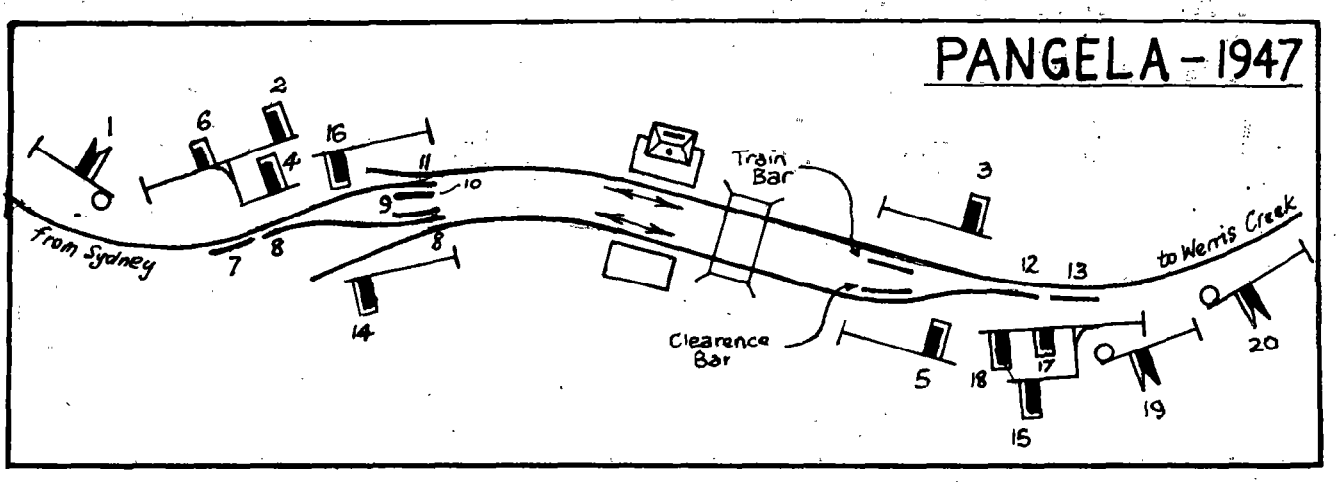
For many years Pangela was the tabled crossing place of the Up and Down "Northern Tablelands" Expresses. The introduction of XPT's (and re-introduction of loco-hauled Expresses) and the consequent timetable changes relieved Pangela of that responsibility. In its declining years, with longer and heavier trains becoming the norm, Pangela lost favour as a crossing place. The steepness of the grade was undoubtably sufficient discouragement. So, when the plans for the Aberdeen-Werris Creek CTC project were unveiled Pangela, along with Wingen and Blandford, was omitted from the new scheme.

As things turned out, Pangela was to end its life as it began, as a "follow on" station, albeit with electric staff not tablet working. On 5 October 1986 the crossing loop was closed and the points spiked to "normal". This situation was to last for only a week.

On the weekend of 11-12 October 1986, as a preliminary arrangement prior to the introduction of CTC working, single-line ttrack control signalling was

introduced between Murrurundi-Pangela and Pangela-Ardglen were cancelled, the remaining signal arms were removed from their posts and Pangela passed into history.

Those who had the good fortune to visit, and be made welcome at, Pangela sometime during its operational life will doubtless mourn its passing. Its closure has left the NSW rail system without one of its more interesting and scenic safeworking locations. Its closure represents another step towards the elimination of 19th century signalling practices from our main lines. While we certainly can't criticise progress and certainly would not argue against the advantages of CTC, many will be saddened to know that Pangela has passed from us.



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Signalling News from South Australia (cont from page 39)

sioning of the old system, worked from the mechanical lever frame in the impressive signal cabin, until the commissioning of the new system, all train movements were conducted by pilot working and hand signalmen. The temporary control panel is located in the signal cabin and will be operated from there until the full remotely controlled system is introduced in the near future.

MORE ADELAIDE (NORTH TERRACE) STATION RE-ARRANGEMENTS

On 16 November 1986, platform 5 was closed and the track leading to that platform was slewed over to connect to a new track leading to new platform 8. The closure of platform 5 is the last closure pending a replacement platform as the remaining platforms - Nos 1-4, will not be replaced in the final layout.

--oOo--

S.R.S.V. CROSSWORD No 18

compiled by Stephen McLean

(Compiler's Holiday. With the exception of 4 across and some of the two-letter answers, all the words are associated with place names overseas.)

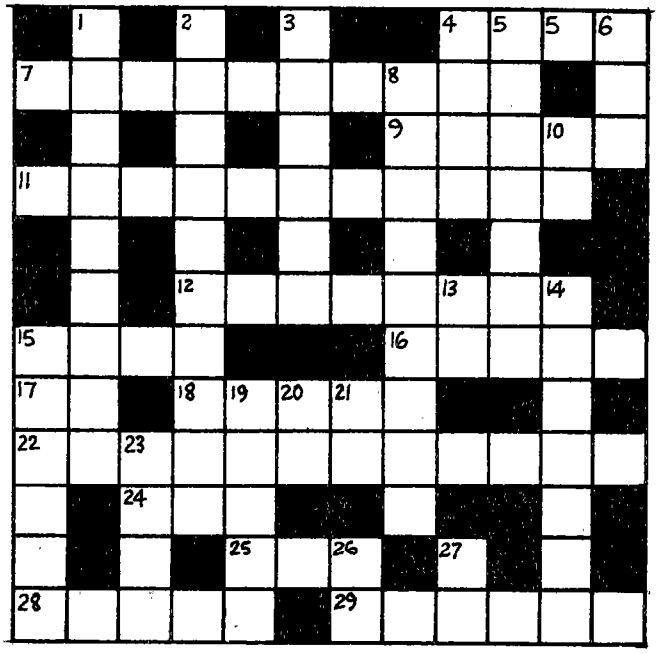
exception

ACROSS

4. Keep them to keep your W.T.T. in order (4)
7. Starting point for trains to Lilydale and the North-East (10)
9. Part of the road an Anatolian express takes (5)
11. Site of US loco-building needs catchy name! (11)
12. All Nelly arranged was the start of our trip on the Central Wales line (7)
15. Important termini found in this Italian city (4)
16. Type of town found at St. Georges near Paris and between Montreux and Aigle in Switzerland (5)
17. See 26 down.
18. On the same line as Nairn (5)
22. Gazes at "la RER"? Change at this main-line station (4,2,6)
24. Swiss Junction served by three private companies, not in the south, despite its name (3)
25. Is in France, this important terminus (3)
28. This Swiss junction has a large number of train movements each day. Another thousand and things would really be hotting up! (5)
29. A Niger station? No, a Canadian one (6)

DOWN

1. Starting point for the Transiberian (sic) Express? (9)
2. Bob runs here, between the lakes (10)
3. A conventional Swiss station (6)
4. Tokyo suburban location, on new line parallel to Shinkansen, is something to David Watson (4)
5. A loud NA unlikely to be pulling this Turkish express (7)



6. Good water supply at this Belgian terminus (3)
8. This corner of England is servied by the Southern Region (9)
10. The state of the Long Island Railroad (2)
13. The French light engine (2)
14. Grandson can be seen near this Swiss junction (7)
15. Calabrian destination for the Aurora (6)
19. Sounds like part of the SNCF, but is on the DB (5)
20. It can be found in 18 across (2)
21. Route used by cattle train (2)
23. Disagreement about how African lines should cross this valley (4)
26 and 17 across. What to pay attention to at Spanish level crossings (4)
27. Type of line found in Darjeeling (2)

Solution to No 17.

ACROSS: 1. Trip, 4. Arrival, 9. NE, 10. Spur, 11. Metropolitan, 13. ES, 14. RG, 15. Terminus, 18. How, 19. LE, 20. DP, 21. Isa, 22. LA, 23. Togar, 24. Lochalsh, 26. Kyle, 27. Of, 29. My, 31. No, 32. ME, 33. Remarshalled, 37. DERM, 38. Slot.
DOWN: 1. Timetable, 2. Interlock, 3. Per, 4. Aspendale, 5. RPO, 6. Rules, 7. Iris, 8. Longwarry, 12. Arosa, 16. ME, 17. Up, 18. High, 22. Lalor, 23. Thomas, 25. Hynam, 28. Fell, 29. Meet, 30. Wee, 33. Rd, 34. Mr, 35. So, 36. Lo.