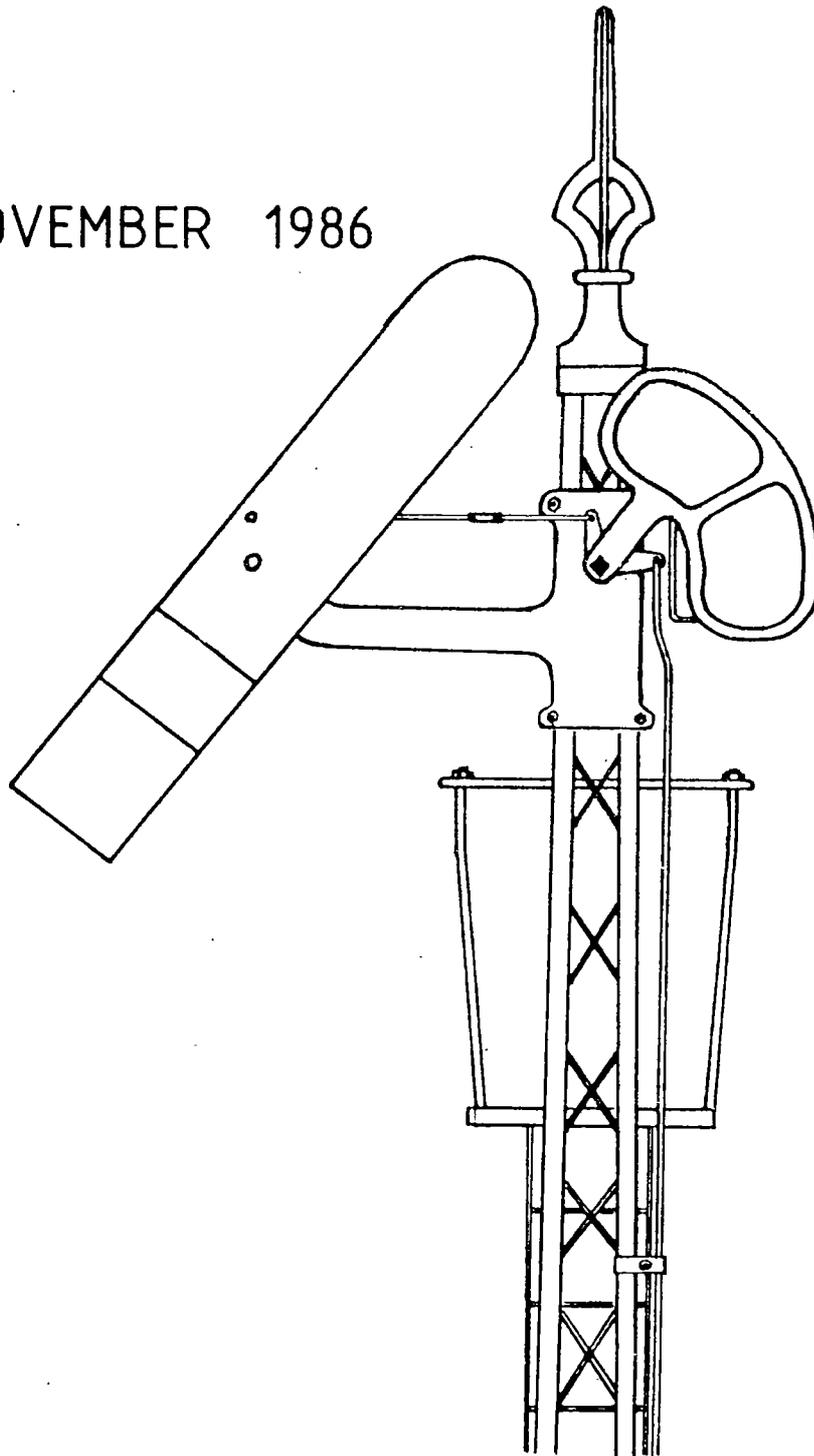


# SOMERSAULT

NOVEMBER 1986



# SRSV

Editor: David Langley, Crichton Street, Avenel, 3664.  
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Deadline for the January 1987 issue is 25 January 1987.

NEXT MEETING: Friday, 21 November 1986.

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

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 11 Deribong Place, Thornleigh, 2120. Ph. 02-8489994.

#### MINUTES OF SEPTEMBER 1986 MEETING

- HELD AT: A.R.H.S. Library Room, Windsor Railway Station
- HELD ON: Fri. 19 September 1986
- MEETING COMMENCED: at 2002 hours
- PRESENT: Jack McLean, Alan Jungwirth, Stephen McLean, Mike Drew,  
 Jim Brough, Glenn Cumming, Jon Churchward, David Langley,  
 Colin Rutledge, Wilfrid Brook, Bob Whitehead, Chris Guy,  
 Bill Mercer, John McCallum, Mark Bau and Phillip Miller,  
 with visitors Robin Quaife, Iain Stuart, Andrew McLean  
 and guest speaker Peter Pay.
- WELCOME: Was extended to the visitors, in particular Peter Pay, and  
 to member John Hosking who was at his first meeting in  
 three years. (John's name was not on the list of those  
 present handed to the secretary).
- APOLOGY: Ian Matthews
- 1986 ANNUAL MEETING: Will be resumed when the treasurer is present.
- MINUTES OF PREVIOUS MEETING: Adopted as read (Brough/Rutledge).
- BUSINESS ARISING: The Show Day tour is on, and will run in accordance with  
 previous information. The bus was organized today.
- CORRESPONDENCE: Nil.
- GENERAL BUSINESS: From J.D. McLean:
1. Thanks to David Langley for the care he gave to the  
 Train Order article in Somersault, in particular the  
 excellent reproduction of the many diagrams.
  2. Congratulations to Glenn Cumming for writing his first  
 article for publication at the age of 17. (Jack  
 recalled that he was 17 when he had his first article  
 published).
- Administrative items:
1. The microfiche of Jack's diagrams will be on sale soon,  
 price expected to be \$25. Orders should be made through  
 the State Library.
  2. David Langley apologizes for the omission of expected  
 material from pages 91 and 92 of Somersault.
- Items of an enthusiast nature:
1. Tenders have been called for the ATC Melton-Bacchus  
 Marsh and Ballan-Warrenheip.
  2. From Jack McLean's recent trip to NSW and Queensland:  
 He noted the use of unsignalled crossovers on running  
 lines when single-line working was in force. This  
 occurred on four occasions, including one when the up  
 Central West XPT which had arrived on time at Penrith  
 waited 33 minutes to cross two suburbans.

He saw the arrangements for switching out stations on the Richmond line which involve a series of special staffs.

He saw the CTC panel at Broadmeadow.

On the free travel day in Brisbane he rode on a steam special New Farm-Roma Street.

Electric locos were being tested on one line between Sunnybank and Kuraby with the regular service working staff and ticket on the other line.

He has brought back a Southern Line (NSW) control graph including single-line working Bargo-Aylmerton, and expects to receive a complete set of diagrams Caboolture-Gympie.

3. Wilfrid raised the matter of the urinals at Charters Towers operated by "signal flush". Various members participated in a chain of discussion.
4. Stephen McLean recently visited South Australia and reported the regular use of BG locos to shunt the SG motorail at Adelaide, and the crossing between the Bluebirds at Keith where the trains arrive "head on", then one of them backs out and runs round the other.
5. Wilfrid reported the use of Train Orders between Townsville and Cairns; every order is checked individually to reduce the possibility of error.
6. Stratford Junction box was disestablished last week.
7. The Society registered its approval of the presentation of a "gold-plated hogaphone" to Eldon Hogan.
8. The interlocked gates at Glenhuntly come out tomorrow. Sydenham has two weeks left.
9. Peter Pay mentioned the possibility that Train Orders may be used in Victoria, without specifying a line.

#### Questions:

Some members had questions which were answered from the body of the meeting:

Q: Were there problems with crossing trains at unattended stations on the Geelong-Ararat line?

A: Yes, due to crews from different depots having different and incompatible methods of operation. Resolution of the problem is in hand.

Q: Did Frankston once have a non-somersault up distant?

A: Yes.

Q: Has the crossover been removed from the Sandringham line at South Yarra?

A: Yes.

Q: Have bell codes been simplified?

A: Yes. (A. Jungwirth stated that from Ballarat East to Warrenheip the "special codes" of 3-1<sup>st</sup> for a Geelong train and 4 for a Bacchus Marsh train remain).

#### GUEST SPEAKER:

Peter Pay is the third Transmark adviser to V Line (or its predecessors) to speak at an SRS meeting. Peter described his work for BR, then for Transmark, with particular emphasis on his planning work for the Channel Tunnel, and his time at Norwich, during which this part of England lost some of its backwater feeling. He concluded with a set of slides taken at an Open Day at Crown Point Carriage Depot, which showed a number of classes of loco, and examples of modern freight rolling stock.

#### MEETING CLOSED:

at 2040 after the business part, or 2240 after the slides.

SIGNALLING ALTERATIONS

- \* 1/7/1986 GLENBURNIE and WOODS AND FORESTS SIDING. Staff locks on the points have been removed and in lieu the points are secured by hand locking bars, pins and padlocks. Hinged scotch blocks were provided in the sidings.
- 27/7/1986 PATTERSON-MOORABBIN. Up automatic signal F 528 and down automatic signal F 527 were relocated one metre further from the track.
- \* 27/7/1986 KEON PARK. The down starting signal post 29 was moved 10 metres further out.
- \* 28/7/1986 NYAH WEST. Disestablished as a staff & ticket station, the new section becoming Swan Hill-Piangil. The fixed signals and plunger locks will remain in use until further notice.
- WN 30/1986 MIAKITE LOOP-PORTLAND. New signalling diagram No. 28/86 has been issued. This diagram shows the altered station arrangements on this section of the Portland line.
- WN 31/1986 WILLAURA LOOP-GRAMPIANS LOOP. New signalling diagram No. 26/86 has been issued. This diagram shows the altered station arrangements on this section of the Portland line.
- WN 31/1986 MOBILTOWN-SEAHOLME. The speed around the curve at the up end of the bridge over Kororoit Creek has been increased from 35 Km/h to 60 Km/h. (I thought we closed Mobiltown - Ed.)
- \* 11/8/1986 NORTHCOTE. The main line crossover was spiked out of use and the crossover and siding will be dismantled.
- 10/8/1986 METROL-SPENCER STREET. The approach control on signals Nos 121, 301 and 703 was removed. These signals control the entry to the Underground Loop from platforms 9, 10 & 12 respectively.
- \* 13/8/1986 KILMORE EAST. The dwarf signal post 12 from the Apex Quarry siding was altered to apply to the down line as well as the up line. This permits down ballast trains from the siding to reverse onto the down line as a signalled move before departing to the north. Previously trains were signalled by radio from the siding to the down line, seemingly a dangerous move considering the effort put into this alteration. Unfortunately no-one seems to have taken into account the radio signalling required when an up ballast train arrives from the north to reverse into the siding.
- 17/8/1986 GLENHUNTLY-ORMOND. Down automatic signals F 417 and F 425 were moved four metres out from the track.
- 19/8/1986 SOUTH YARRA. The emergency crossover between the up and down Sandringham lines was abolished.
- 20/8/1986 BALLARAT. Flashing lights were provided at Heinz Lane level crossing at 122.441 Km. The operation of the flashing lights is automatic for all movements. (The Weekly Notice fails to tell us what line this crossing is on but a perusal of the P.C.R. Book shows that Heinz Lane is on the Maryborough line - Ed.)
- \* 21/8/1986 VITE VITE. The staff locked points at both ends of the siding were abolished. The main line points were spiked normal and will be removed at a later date. (Does this mean that the siding is now closed to traffic?- Ed.)
- \* 22/8/1986 GLENHUNTLY. The upside tramway catch point was relocated 10 metres further from the level crossing. This catch point is now motor operated and the disc signal has been replaced by a light signal. An emergency 5P key operated releasing switch has been provided in the signal box for use should a failure occur when lever 11 is restored to the normal position. If used, the 5P key should be turned to the right for one second. If a release is still no obtained, Tramway Radio Centre must be informed and when the appointed Tramway employee arrives to hand operate the catch point, the signaller may operate yet a further emergency switch which is labelled "HAND" and "MOTOR".
- WN 34/1986 GENERAL APPENDIX - BALLAST TRAINS. Instructions on p 109 and 110 regarding the operation of Ballast and Plant Trains have been amended.

- \* 26/8/1986 WARRAGUL. The disc signal on Post 9 applying from No 1 road to the Loco Road was removed. Lever 60 was sleeved normal. (Does this mean that No 43 crossover was abolished or at least spiked normal? - Ed.)
- \* 3/9/1986 MAROONA. The arrival home signal from the Cressy line was converted to a light signal. The existing wire lead from the signal quadrant has been retained and works a circuit controller near the signal after mechanically detecting the facing points ahead of the signal.
- \* 6/9/1986 OFFICER. Boom barriers were brought into service at Station Street and Cardinia Road level crossings. The booms work inconjunction with the existing flashing lights. Signal D 1632 was interlocked with the Station Street booms and a 5P key operated switch was provided on the up platform to enable the signal to be held at Stop.
- \* 6/9/1986 PAKENHAM. Boom barriers were provided at McGregor Rd. and Main St. level crossings. The booms work inconjunction with the existing flashing lights. Automatic signal D 1824 is controlled by lever 10 at Pakenham and is interlocked with the McGregor St. booms.
- Signals No. 6, 8, 12, 14 and 16 are interlocked with the Main Road booms and 'express' and 'stopping' push buttons associated with signal No 14 were provided on the panel. A push button interlocked with signal No 10 (D 1824) was also provided and is pushed when up goods trains are to stop at Officer to shunt.
- \* 8/9/1986 STRATFORD JUNCTION. The signal box at Stratford Junction was abolished and the Maffra line points were secured by a staff lock. The signal box was also closed as an electric staff station, the section becoming Sale-Stratford. An intermediate electric staff instrument was provided at Stratford Junction whilst the section to Maffra has become a staff & ticket section. The only signal remaining at the junction is the home signal from Maffra which is worked from a quadrant lever adjacent to the points. A master key has been provided at Stratford to enable the points to be unlocked during a failure of the electric staff instruments.
- \* 9/9/1986 KORONG VALE-ULTIMA. The electric staff system was replaced by staff & ticket on the following sections; Korong Vale-Boort-Quambatook-Ultima.
- \* 11/9/1986 BENALLA "A" BOX. The up advance (sic) starting signal Post 1B lever 20 was converted to motor operation.
- 12/9/1986 WEST TOWER-KENSINGTON. The overhead wiring above the North-East goods lines and the connections to the Main Goods line has been de-energised.
- \* 12/9/1986 FLEMINGTON RACECOURSE LINE. Signalling diagrams Nos 33/86 (Flemington Racecourse line) and 31/86 (Kensington-Essendon) were issued and diagrams Nos 41/85 and 9/86 were cancelled. Alterations were made at each signal box on the line as shown below.
- NEWMARKET-Lever C and adjacent crossover were abolished. Nos 41 and 47 catch points were removed from the main lines.
- ASCOT VALE ROAD-The plunger locked crossover on the down side the level crossing and the track at the goods platform was removed. The dwarf signal on post 5 and No 3 single ended points with catch were abolished.
- SHOWGROUNDS-A new crossover from the Showgrounds platform to the down line was provided and the connection from the down line to the Loop line was removed. The dwarf signal post 10 was replaced by a home (light) signal leading from the platform to either the down line or to the loop line. The right hand light on post 2 and 12 were abolished and the bottom light on post 14 (to refuge siding) will only display a yellow light when the line is set towards the refuge.
- FLEMINGTON RACECOURSE-The disc on post 68 was abolished. (Note: The points leading to Nos 3 & 4 roads are spiked out of use and a baulk is placed on the Loop line adjacent to post 64. These facilities are yet to be placed in service.)
- 13/9/1986 GLENHUNTLY. The crossover at the down end is no longer available for electric trains or engines.
- 14/9/1986 PAISLEY-LAVERTON. Automatic signals G 554, GG 554, G 672 & GG 672 were converted to reverse stagger lights.

- \* 17/9/1986 GLENHUNTLY. Signal repeaters were provided for signals No 7 & 19.
- WN 36/1986 SYDENHAM-GISBORNE. New signalling diagram No 30/86 was issued and diagram No 33/82 was cancelled. This diagram shows the alterations at Sydenham and Sunbury.
- \* 21/9/1986 GLENHUNTLY. New signalling diagram No 35/86 (Glenhuntly-Parkdale) was issued and diagram No 51/85 was cancelled. The interlocked gates at Glenhuntly Road, Glenhuntly, were replaced by manually operated boom barriers worked by lever 2. The pedestrian wicket gates were retained.
- \* 23/9/1986 SYDENHAM. Ground disc signal No 6 was abolished and a new disc provided on post 7. Post 7 now reads - left hand disc from No 2 road to up line and right hand disc from goods siding to up line. The two discs are controlled by lever 6 and are mechanically selected.
- WN 37/1986 NARRE WARREN-PAKENHAM. New signalling diagram No 19/86 was issued and diagram No 5/86 was cancelled.
- WN 37/1986 NAR NAR GOON-TYNONG. New signalling diagram No 8/86 was issued and diagram No 5/86 was cancelled. (NOTE: Diagram No 5/86 was Narre Warren-Tynong which covered both Metrail and V/Line stations and the opportunity was taken to issue two diagrams to cover the stations separately. Petty is it not? -Ed.)
- WN 38/1986 TRAIN DETECTION DEVICE. Instructions were published regarding the fitting and testing of a device designed to show the driver that his train is complete. An "End of Train Magnet Unit" is fitted on the rear vehicle attached to the "End of Train Marker Unit" and a transponder located at the 96 Km post near Inverleigh will detect the presence of this equipment and then cause a radio message to be sent to the driver of the train indicating that the train is complete. The trackside equipment also records the passage of the train and can detect between down and up trains. At present only one unit is available but all trains between Gheringhap and Maroona will be so fitted when more units become available. The unit is fitted by the station staff at either Gheringhap or Maroona.

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Some further alterations not announced in the Weekly Notice have come to light. On Sunday, 31/8/1986, automatic signals W 318 and W 319, between Spotswood and Yarraville were temporarily out of service while the signal masts were renewed but also the light units were changed from Style "VR" to Style "R". Other signals that received maintenance around this time were W 264 (Footscray-Seddon) and Post 3 at Yarraville. W 264 has possibly also been changed to Style "R". This perhaps is a fore taste of things to come, if you haven't got your pictures of Style "VR" signals, you had better do so. There are not many left.

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#### SOCIETY NEWS

Over the last few years, the Editor's attention has been drawn to the fact that someone has missed a few issues of Somersault and requests, usually by word of mouth, were received for back issues to complete their collections. Due to the production methods followed, the print run of Somersault is usually very close to the actual number of members at that time. Thus if your name is missing from the membership lists for any reason, you will not receive a copy. If it is felt that your name should be on the list and yet no Somersault is received, the Subscription Manager should be contacted and the problem sorted out.

Late subscriptions, some do not turn up until well into the membership year, will mean those members will miss a couple of issues of Somersault. In these cases, it may be possible to supply the missing issues but as already pointed out, very few back issues of Somersault are available after the initial 'mail-out'. It is members responsibility that, if they wish to receive each issue of Somersault, they must renew their subscription on time.

As this is the last issue of Somersault for 1986, the Editor, on behalf of the Executive of the S.R.S.V., would like to wish all members a joyous Christmas and may the new year bring renewed writing activity enabling Somersault to publish YOUR article.

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McKenzie and Holland verses Saxby and Farmer

By Colin Rutledge.

As a fore-runner to writing about McKenzie and Holland locking frames (as part of my series on interlocking) I did a little research into just how it was that the Victorian Railways selected that firm in preference to the other contractors. Through out the entire existence of the VR three frames (actually two, as I will shortly show) do not owe their parentage or manufacture to McKenzie and Holland. The information I gathered relates to reasons for being pro McKenzie and Holland, also the history of Saxby and Farmer in Victoria.

It has always been accepted that the first interlocked frame in Victoria was the Saxby and Farmer frame at Swan St. Richmond. The year of installation is given as 1873.

Documentary evidence in the VR interlocking register confirms the year and notes the frame was of Saxby and Farmer manufacture. The frame consisted of 16 levers including gate apparatus. The register says that the frame was inspected on the 13 October 1883 and the gate gear was found to be badly worn. A new McKenzie and Holland frame (probably No. 6a pattern) replaced the Saxby and Farmer frame on the 4 May 1884. Curiously, not long before the replacement of the Richmond frame a 12 lever Saxby and Farmer frame was erected at St.Kilda. This occurred on Monday the 7 April 1884 and was the first frame erected at St. Kilda. It therefore appears that there were 2 Saxby and Farmer frames for a short time. This always struck me as being rather odd, but re-checking the register sheds no light on the matter.

An "aging" interlocking fitter told me recently that when he was an apprentice, the fitter he was working under related to him how it was done in the old days. Apparently it was usual in the case of large alterations to dis-establish the current system and insitute hand signalmen for the duration of the work. Sometimes hand signalmen were required for a few weeks if a big job was being undertaken. I have not yet discovered just how much work was involved at Richmond in 1884, but the Argus newspaper of 28 January 1882 stated that 2 lines were being doubled to 4 lines.

By reading between the lines, and using known information, there is only one logical conclusion. I think it would be reasonable to assume that the Saxby and Farmer frame was abolished about the 2nd or 3rd of April 1884. This would give about 5 days to alter and re-erect the frame at St. Kilda. Being only 12 levers, 5 days would be sufficient for this work. Richmond was, therefore, de-interlocked for about 4 to 5 weeks during the alterations.

We can now say, beyond any reasonable doubt, that there has only ever been one Saxby and Farmer frame. And, in addition, it is true to say that throughout the entire history of the VR they only purchased one (the Sykes power frame at Flinders St. "D") frame away from their "standard". Richmond (Swan St.) signal box was installed by the Melbourne & Hobsons's Bay Co.

In my earlier remarks I referred to 1873 as the register date for Swan St. This has always been accepted at face value. But I now question this, and suggest that the most likely date is December 1874. The Argus (28 January 1882) when mentioning the forthcoming duplication at Richmond noted that the Saxby and Farmer frame (at the time in use) was installed in 1871! This claim can be dismissed when the next reference is checked. The Argus, again, but a few years earlier (on Monday, 3 July 1876) published an article on the installation of the Essendon Junction frame on the previous Saturday. They mention in the text that Saxby and Farmer supplied a frame to the private company eighteen months earlier. Apparent confirmation of December 1874 comes when a comparison is made with patent office files.

John Saxby was a prolific inventor and patented many signalling appliances. His first patent relating to interlocked frames was No. 2119 of 1867. On 17 June 1871 he patented a catch handle locking frame with a single rocker (No. 1601). Double rocker fitted frames were patented the next week, as No. 1655 (23 June). The final version of these frames were patented on 23 January 1874. Rumour has it that Swan St. frame was purchased from an exhibition. Engineering exhibitions were a common event in the second half of last century, Melbourne hosting one in 1880, and Sydney 1879. There were, no doubt, more than two held in the colonies and quite possibly there was one around August 1874. If so, Saxby and Farmer would have just had time to get their new patent on

display (which they would be anxious to do anyway.) Railway safety apparatus was very much in the forefront, and any opportunity for publicity, or even a sale, could not be missed. After the exhibition the frame may have been put straight to work by the new owner. At present the possibility of an exhibition at the time I mention is conjecture, but the circumstantial evidence is strong.

With the beginning and end of Saxby and Farmer taken care of, we can turn to the beginning of McKenzie and Holland. Because McKenzie and Holland remained in favour to the extent that they secured a monopoly, I will not discuss their "end" in this article.

The Spencer St. terminus of the VR has out-grown itself a number of times. The first time was in the period 1875-7, when the piece-meal arrangements that resulted from additions to the original Batmans Hill Station, were tidied up. Thomas Higinbotham, then Engineer in Chief, visited England in 1875. While there he made arrangements with McKenzie and Holland for that company to supply interlocking apparatus (in connection with the works at Spencer St.). It is quite possible that then Higinbotham left Victoria, the frame at Swan St. on the private line did not exist. Even if it did, there would be no obligation to use the same apparatus. As the government takeover of the Hobsons Bay Co. did not become a reality until 1878. Although railway safety was very much in the public eye, Higinbotham would be under an obligation to negotiate the cheapest package possible. A number of other considerations such as durability, simplicity, etc, must have influenced the choice of frame. Even the dispatch of a representative to supervise the installation work could influence the choice of manufacture. (McKenzie and Holland sent Mr. E. Philpott as their representative). The VR were obviously impressed with Mr. Philpott, as they later appointed him to the top position in the signals branch. Maybe Higinbotham also had this on his mind when making his choice.

The VR annual report of 1878 says that gear for sixty points and signals had been imported and that 239 pounds had been allocated for signalling. Three boxes were then in use and the savings in pointsmen, yardmen, shunters and pilot locomotives was 4,108 pounds per annum. Essendon Junction was the first frame installed on 1 July 1876. North Melbourne (near Hawke St.) followed on 27 August 1876, along with Goods Shed Junction on the same date. The total number of levers in the first three frames was 59.

Until the end of 1882, the VR continued to install McKenzie and Holland frames, about 12 in all, but they did not appear to put the work out to tender, as there is no mention of any contracts being let in the annual report contract summary. Earlier I referred to an engineering exhibition held in Melbourne in 1880. Saxby and Farmer gained a gold medal in connection with their display at the exhibition, whilst McKenzie and Holland only claim a "first degree of merit" at the Sydney exhibition the year before. Questions were no doubt asked as to which apparatus was best and cheapest. It seems that there was a halt to the spread of interlocking after the time of the exhibition until tenders were called around 25 February 1882.

Tenders were called for interlocking a number of junctions on the suburban and inland lines, which was estimated to be valued at 15,000 pounds, with additional work planned at a cost of 8,000 pounds. (Prospective tenders had until 29 June to submit their proposals.) McKenzie and Holland would have been in a good position to submit realistic proposals, considering their previous experience. Saxby and Farmer, meanwhile, did not have the experience and may not have even had a representative with the detailed knowledge necessary for submitting tenders. Four months may have been adequate time for McKenzie and Holland but not for Saxby and Farmer if they needed to communicate with England. It was announced on 25 August 1882 that McKenzie and Holland gained the contract with a tender of 15,454 pounds.

There is, in the middle of all this, something that does not ring true. A steady flow of installations started with Flinders St. East on 11 March 1883, some 7 months after the letting of the contract. But in that interval a frame was installed at Jolimont Junction on 1 October 1882. At this time the evidence suggests that frames were being built locally, as 7 months is not long enough for an order to leave Melbourne, and a frame to come by return "mail" from England. Unless telephone services were available. So why the long gap - August till March? Did it take the VR time to organise their construction program, or is there some other explanation; and how did Jolimont Junction happen.

When examining all the evidence it is hard not to conclude that someone was pushing the McKenzie and Holland cart very forcefully. But looking back one hundred years, it is not possible to say who.

Reflecting on McKenzie and Hollands monopoly, it has really been an advantage to be 100% standardised. The only apparent disadvantage is the lack of competition on price. But the benefits of standardisation have for the VR, in retrospect, far outweighed the nometary considerations.

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ACKNOWLEDGE  
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VICTORIA

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TRAIN CREWS CHANGING OVER

DOUBLE LINES

When it is necessary to change Train Crews on Double Lines, the changeovers should, as far as is practicable, be carried out at Block Posts that are switched "in".

However, should the Train Controller consider that train running would be expedited by effecting the changeover at a Block Post that is switched "out", or at an intermediate station, the changeover of Train Crews may be carried out in accordance with the following instructions:-

- (i) The Train Controller must inform the Train Crews of the circumstances by means of the Train to Base Radio. He must also inform the Signalmen at the manned Block Posts on either side of the circumstances. The Signalmen must make a note to this effect in their train register books.
- (ii) Changeovers must be carried out at recognised intermediate stations or Block Posts.
- (iii) When changing crews at intermediate stations, the locomotives should, as far as practicable, stop parallel to each other. If Guards are to change over, the trains may pull forward until the Guard's Van are parallel to each other. The Guards may use the train radio to assist the Driver in stopping the train.
- (vi) Should the changeover be missed at the designated location, arrangements must be made to effect the changeover at an alternate location.

UNDER NO CIRCUMSTANCES ARE TRAINS TO SET BACK WHEN EFFECTING CHANGEOVERS AT INTERMEDIATE LOCATIONS.

- (vii) Should the Train to Base Radio be defective, crew changeovers must be effected at switched in Block Posts.

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RUNNING TRAINS BY TIME TABLE AND TRAIN ORDERS

CANADA 1944

by Jack McLean.

(continued)

## PROCEDURE FOR ISSUING ORDERS

When the dispatcher issued Order 253 for No 11 to have right away over No 4, the procedure would have been something along these lines.

No 11, the inferior westward train, was approaching Ardrossan and No 4, the superior eastward train, was on the outskirts of Edmonton, where it would stop for at least half an hour to change engines and crews. The dispatcher could, therefore, be sure that the Order to No 4 would be given to that train, and signed for and acted upon, because the conductor and engineer would have to get a Terminal Clearance before they left, and such an order would have been listed on it and attached. Otherwise the signature of the conductor of No 4 would have been required by the Edmonton operator BEFORE the Order could have been sent to the operator at Ardrossan for delivery to the conductor and engineer of No 11.

A partially issued order acted as an "Order to hold" on the train concerned as shown in Rule 214 and therefore the operator at Edmonton was obliged to hold No 4 until the Order had been signed for.

So, the dispatcher would call the operator at Edmonton on the selector phone and say "31 East copy (so many)" which meant "Get ready to take a 31 Order for an eastbound train with (so many) carbons". As the operator there had no Train Order Signal - Edmonton Passenger Station being a place where EVERYTHING stopped - the operator would reply "NS 31 East" which meant "I have no signal to display but I am ready to take a 31 Order for an eastbound train".

The dispatcher would then call Ardrossan and say "19 West copy 3" which would mean "Put your Train Order Signal to 45° or show a yellow light and get ready to take a 19 Order for a westbound train". The Ardrossan operator would put his Train Order Signal to 45° and reply "SDY 19 West" which meant "My Train Order Signal is displayed with a yellow light and I am ready to take a 19 Order".

The Train Order Signal was generally a three position upper quadrant signal with a round end, of which the horizontal position and a red light commanded a train which faced it; to stop, the 45° position and yellow light indicated that orders were to be picked up without necessarily stopping, and the vertical position and green light indicated that there were no orders. I gather too that in these verbal exchanges there were a number of slang expressions used and it was not always as formal as I have described.

When both operators were ready, the dispatcher would say:

"Order 253 to Edmonton C & E No 4 Engine 6-0-5-2  
to Ardrossan C & E No 11 Engine 5-1-2-9  
No 11 Engine 5-1-2-9 has right over No 4  
Engine 6-0-5-2 Ardrossan to North Edmonton  
H.E.F."

Each of the stations names and each of the numbers would be spelled out. Then, each operator would separately repeat the Order while the dispatcher and the other operator listened, and the dispatcher would underline each of the words and numbers which had been spelled out in his Train Order Book as shown in Rule 205 and 206. A page of a CPR Order Book is illustrated here and in it will be seen the underlining when the orders were repeated by the operators.

214. When a train order has been repeated or "X" response sent, and before "complete" has been given, the order must be treated as a holding order for the train addressed, but must not be otherwise acted on until "complete" has been given.

If the means of communication fails before an office has repeated an order or has sent the "X" response, the order at that office is of no effect and must be there treated as if it had not been sent.

207. Before transmitting a train order, the train dispatcher must give the signal 31, 19R or 19Y followed by the direction to each office addressed, the number of copies being stated, if more or less than three, as: "31 west copy 5," or "19R east copy 2," or "19Y west copy 7," and receive the proper response from the operator as prescribed by rule 221.

221. Where the display of a signal at a train order office is necessary in order to make delivery of a train order, a train order signal will be used and, unless otherwise provided, will indicate proceed except when a train order is to be delivered to any train in the direction indicated, or as required by rule 91a.

When an operator receives the signal 31 or 19R he must immediately display the stop signal for the direction specified and then respond SDR, adding the direction.

When an operator receives the signal 19Y he must immediately display the caution signal for the direction specified and then respond SDY, adding the direction, except that if the stop signal is already displayed it must be left at that indication and the operator will respond SDR, adding the direction.

205. Each train order must be written in full in a book provided for the purpose in the office of the train dispatcher; and with it recorded the signals and responses transmitted, the offices from which the order is repeated and the time, the names of those who sign for the order, the times at which the order is made complete, and the train dispatcher's initials. These records must be made at once and never from memory or memoranda.

Additions to train orders must not be made after they have been repeated.

206. In train orders, regular trains will be designated by numbers as "No. 10," and sections as "Second 10," adding engine numbers. If the number of the engine cannot be ascertained the word "unknown" will be used. Extra trains will be designated by engine numbers and the direction, as "Extra 234 East." Work extras will be designated as "Work extra 234." Trains operating snow plows will be designated as "No. 86 Eng. 234 snow plow" or "Plow extra 234 East."

Engines of other railways will be designated by their initials and numbers, as "ABC 234."

When two or more engines are coupled, and a designation is made by engine number, the number of the leading engine will be used, except that when an assisting engine is used over part of a subdivision the number of the engine taking the train through will be used.

Even hours as "10.00 a.m." must not be used in stating time in train orders.

In transmitting and repeating train orders by telephone the numbers of trains and engines in the address will be pronounced and then spelled letter by letter. All stations and numerals in the body of an order must first be plainly pronounced and then spelled letter by letter, thus: Aurora A-u-r-o-r-a, and one nought five o-n-e n-o-u-g-h-t f-i-v-e.

When train orders are transmitted by telegraph the train dispatcher must write the order into the train order book as the first office repeats, and check and underscore each word and figure at each repetition. When transmitted by telephone he must write the order as he transmits it, and check and underscore each word and figure at each repetition.

OCT 31 1913

Form 525

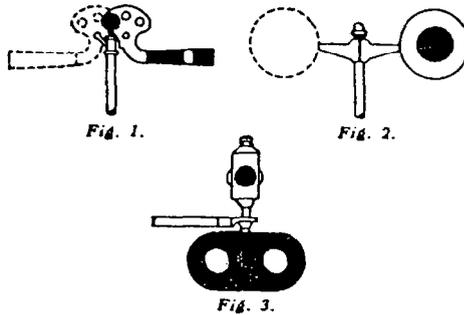
| Form | S.D. Response | Order No. | Office Signal | ADDRESSES, BODY OF ORDER AND DISPATCHER'S INITIALS | Time of Repetition | SIGNATURES  | Train | Time Made "Complete" and Dispr. Initials |
|------|---------------|-----------|---------------|--|--------------------|-------------|-------|--|
| 194  | NS            | 13        | K             | Eastward Extra Trains                              | 0838               | [Signature] |       | 0838 DNH                                 |
| 194  | NS            | --        | So            | Eng 800r   | 0839               |             |       | 0839 DNH                                 |
|      |               |           |               | Eng 800r Run Extra                                 |                    |             |       |  |
|      |               |           |               | Stockett to Lake Cowichan                          |                    |             |       |  |
|      |               |           |               | with night power                                   |                    |             |       |  |
|      |               |           |               | Eastward Extra Trains                              |                    |             |       |  |
|      |               |           |               | Hayward to Lake Cowichan                           |                    |             |       |  |
|      |               |           |               | [Signature]  |                    |             |       |  |
| 194  | NS            | 14        | So            | Extra 800r South                                   | 0919               |             |       | 0919 DNH                                 |
| 194  | NS            | --        | K             | Extra 800s East                                    | 0920               |             |       | 0920 DNH                                 |
|      |               |           |               | Extra 800r West                                    |                    |             |       |  |
|      |               |           |               | Meet Extra 800s East                               |                    |             |       |  |
|      |               |           |               | at Hayward   |                    |             |       |  |
|      |               |           |               | when over [unclear]                                |                    |             |       |  |

**TRAIN ORDER SIGNAL RULES**

NOTE: These diagrams are intended to illustrate the colors only.

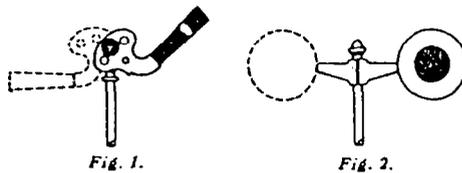
401. The following signals will appear where conditions require their use.

401a.



INDICATION—Stop—for orders.  
NAME —Stop Signal.

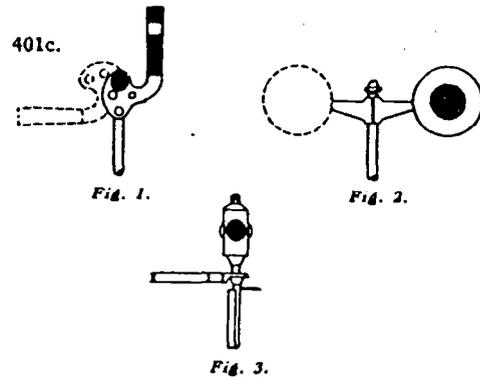
401b.



INDICATION—Caution—for 19Y orders.  
NAME —Caution Signal.

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401c.



INDICATION—Proceed—no orders.  
NAME —Clear Signal.

402. Train order signals affect all train movements in the direction in which the indications apply, the normal indication being proceed unless otherwise provided.

403. When the stop signal is displayed for trains in the direction in which the signal applies, it will indicate the delivery of restrictive train orders which may affect the train at that station and the train must be governed accordingly.

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**DIAGRAMS OF TRAIN ORDER SIGNALS****COMPLETE**

It was important for the operator to know at exactly what point the Order could be acted upon, particularly if there was a failure in communication. The word "Complete" spoken by the dispatcher made the Order valid. In Edmonton in 1944, the telephone was used almost exclusively, but when the line was very bad, they resorted to telegraph.

In my description of the Order 253 for No 11 and No 4, the 31 Order could not be made "Complete" until some time AFTER No 11 had left Ardrossan, because the operator at Edmonton could not obtain the signature of the conductor of No 4 until he came on duty at say 2100. In such a case, the 31 Order for No 4 would have been acknowledged by the operator giving the "X" response, and the dispatcher could then give "Complete" to Ardrossan. When the conductor of No 4 came on duty and signed the 31 Order, then the operator could inform the dispatcher and the operator could then receive "Complete" for the Order.

**THE TRAIN SHEET**

In Canada, dispatchers didn't (and still don't) use graphs to record the movements of trains. Instead, they used "Train Sheets" which for the Viking Sub-Division was a buff card about three feet wide and 15 inches deep. Like the ETT page, it had a central list of stations and spaces for the times of trains at open Train Order Stations to be recorded; westward trains down on the left and eastward trains up on the right, first class trains near the centre and so on. I have a blank sheet for the Viking Sub-Division which I sent home in 1946, but a more interesting one is from the Esquimalt and Nanaimo Railway (CPR) on Vancouver island which was used in 1973.

### FINALLY

This then is a brief description of the interesting and complex method of running trains in Canada in 1944, based on the relatively short experience of a railway enthusiast who had other things to learn at the time. Many items have been omitted, partly for the sake of brevity, but also because of my lack of knowledge.

As I have already said, I have not yet found any books or articles that have explained North American Train Orders and how they work, from the ground up. They all assume that the reader knows how they work, and then they go on to describe the finer details. In the seven years or so, since I have been trying to set this down, I have also found that the system is disappearing. The busier lines going to CTC and less busy to MBS (Manual Block System). If the article causes someone to write the definitive description of the system from his (or her) far greater experience, before the system disappears completely, I will be delighted.

--oOo--

### TOOLAMBA ABOLITION OF SIGNAL BOX

On Saturday 18.10.86, between the hours of 0800 and 1630 and again on Sunday 19.10.86, between the hours of 0730 and 1700, the Interlocked Signal Box and all points and signals worked from the Signal Box at Toolamba, will be abolished.

The following signalling facilities will be provided in lieu:-

1. The up and down end points, together with the Echuca Line junction points will be plunger locked.
2. A down home arrival signal will be provided 200 metres from the up end points.
3. An up home arrival signal from the Shepparton Line will be provided 200 metres from the down end points.
4. An up home arrival signal from the Echuca Line will be provided 250 metres from the down end points.
5. A bracket post with two down home departure signals will be provided at the junction of the Shepparton and Echuca Lines.
6. All signals will be worked from quadrants on platform, whilst quadrants will also be provided at the points leading to No.2 track at each end for all arrival home signals.
7. Rotary type point detectors will be provided on all main line facing points, whilst home arrival signals from Shepparton and Echuca will also detect the trailing junction points.
8. Scotch Blocks will be provided at each end of No.3 track.
9. Between 0800 hours Saturday 18.10.86 and 1600 hours Friday 24.10.86, all fixed signals will be electrically lit progressively.

### BOOK OF SIGNALS

In list of Interlocked Signal Boxes, pages 248-250 delete all particulars for Toolamba.

Page 274 under SIGNALS AT PLACES NOT INTERLOCKED, insert Toolamba:- Home Signals provided 3 down, 2 up.

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**DANDENONG - LANG LANG**  
**Special Safeworking Arrangements**

For the running of Express Freight trains on the Korumburra Line on Saturdays and Sundays, the following Special Instructions for the conversion of the Electric Staff sections Dandenong - Cranbourne, Cranbourne - Koo Wee Rup and Koo Wee Rup - Lang Lang, into one Train Staff and Ticket section Dandenong - Lang Lang, will take effect.

1. On commencing duty on Saturdays, the Signaller at Cranbourne must, after ensuring that the sections on either side are clear, withdraw the Electric Staffs for the respective sections Dandenong - Cranbourne and Cranbourne - Koo Wee Rup (under the 4.2.2 bell code signal) and lock them away.

He must then send the following message to the Train Controller:-

"Staff No. .... for the section Dandenong - Cranbourne and Staff No. .... for the section Cranbourne - Koo Wee Rup have been withdrawn from the respective instruments at Cranbourne and are securely locked away."

2. Likewise, on commencing duty on Saturdays, the Signaller at Koo Wee Rup must, after ensuring that the section Koo Wee Rup - Lang Lang is clear, withdraw an Electric Staff for that section (under the 4.2.2 bell code signal) and lock it away.

He must then send the following message to the Train Controller:-

"Staff No. .... for the section Koo Wee Rup - Lang Lang has been withdrawn from the instrument at Koo Wee Rup and is securely locked away."

3. On receipt of the above messages from the Signallers at Cranbourne and Koo Wee Rup, and after ensuring that the sections Dandenong - Cranbourne, Cranbourne - Koo Wee Rup and Koo Wee Rup - Lang Lang are clear, the Train Controller will suspend the Electric Staff system for the aforementioned sections, and authorise Lang Lang to release the Train Staff for the section Dandenong - Lang Lang by forwarding the following message to Dandenong and Lang Lang.

To Signallers at Dandenong and Lang Lang.

"The Electric Staffs for the respective sections Dandenong - Cranbourne and Cranbourne - Koo Wee Rup have been withdrawn from the instruments at Cranbourne and locked away, whilst the Electric Staff for the section Koo Wee Rup - Lang Lang has been withdrawn from the instrument at Koo Wee Rup and locked away.

I am satisfied there are no trains between Dandenong and Lang Lang.

I hereby suspend the Electric Staff system between Dandenong - Cranbourne, Cranbourne - Koo Wee Rup, and Koo Wee Rup - Lang Lang and authorise Lang Lang to release the Train Staff for the section Dandenong - Lang Lang."

4. On receipt of the above message, the Signaller at Lang Lang may then release the Train Staff for the section Dandenong - Lang Lang. The trains specified hereunder will thus travel between Dandenong and Lang Lang under the Rules for working Single Lines by the Train Staff and Ticket system.

**SATURDAYS**

Nos. 8448, 8409, 9484, 8466, 9487, 8433.

**Sundays**

Nos. 9486, 8488, 9489, 8493.

5. When No. 8493 arrives at Lang Lang on Sundays, the Signaller at Lang Lang must, if the train be complete, so inform the Train Controller and the Signaller at Dandenong by sending the following message:-

"No. 8493 train has arrived complete, and the Train Staff for the section Dandenong - Lang Lang is securely locked away at Lang Lang."

6. It must be distinctly understood that Electric Staff Working must not be reverted to unless the Train Staff for the section Dandenong - Lang Lang is at either Dandenong or Lang Lang and is locked away. A message to this effect must be sent to the Train Controller, who after satisfying himself that the section is clear, and that the Signallers at Cranbourne and Koo Wee Rup are in attendance, will authorise Cranbourne and Koo Wee Rup to release and replace the Electric Staffs in the instruments.
7. (a) When commencing duty Monday mornings, the Signallers at Cranbourne and Koo Wee Rup must so inform the Train Controller, who must, after ensuring that there is no train in the section Dandenong - Lang Lang, and provided that he has received the message from Lang Lang stating that he is in possession of the Train Staff for the section Dandenong - Lang Lang which must be locked away at Lang Lang, the Train Controller will then authorise the suspension of the Train Staff and Ticket system between Dandenong and Lang Lang and the Rup - Lang Lang by sending the following messages:-

- (b) To Signalmen Dandenong, Cranbourne, Koo Wee Rup, Lang Lang.

"The Train Staff for the section Dandenong - Lang Lang is at Lang Lang securely locked away and there is no train in the section. I hereby suspend the Train Staff and Ticket system between Dandenong and Lang Lang, and authorise the resumption of the Electric Staff system for the sections Dandenong - Cranbourne, Cranbourne - Koo Wee Rup and Koo Wee Rup - Lang Lang."

In addition the Train Controller must send the following messages to the Signalmen at Cranbourne and Koo Wee Rup:-

To Signalman Cranbourne.

"I hereby authorise you to release staff No. .... for the section Dandenong - Cranbourne, and Staff No. .... for the section Cranbourne - Koo Wee Rup and restore them to their proper instruments."

- (c) To Signalman Koo Wee Rup.

"I hereby authorise you to release Staff No. .... for the section Koo Wee Rup - Lang Lang and restore it to the proper instrument."

- (d) The Signalman at Koo Wee Rup must then insert the Electric Staff for the section Koo Wee Rup - Lang Lang to the proper instrument using the 2.2.4 bell code signal.
- (e) Likewise, the Signalman at Cranbourne must insert the Electric Staffs for the sections Dandenong - Cranbourne, Cranbourne - Koo Wee Rup to the respective instrument using the 2.2.4 bell code signal.
- (f) After replacing the staffs to the instruments under the above conditions, the instruments must be tested as prescribed in Rule 29 of the Electric Staff Rules.

- 8. All messages sent in relation to these instructions are to be treated as telegrams and dealt with as per the instructions on page 50 of the General Appendix.
- 9. The trains specified hereunder will travel between Dandenong and Lang Lang as shown:-

**SATURDAYS**

|         |       |        |
|---------|-------|--------|
| No.8448 | ..... | Staff  |
| No.8409 | ..... | Staff  |
| No.9484 | ..... | Ticket |
| No.8466 | ..... | Staff  |
| No.9487 | ..... | Ticket |
| No.8433 | ..... | Staff  |

**SUNDAYS**

|         |       |        |
|---------|-------|--------|
| No.9486 | ..... | Ticket |
| No.8488 | ..... | Staff  |
| No.9489 | ..... | Ticket |
| No.8493 | ..... | Staff  |

It must be distinctly understood that this method of working is applicable only to the above-mentioned trains and on the days specified in this Circular. (A. 556/86)

--oCo--

MEMBERSHIP SUBSCRIPTIONS AND RENEWALS

Enclosed with this issue, hopefully, or following shortly afterwards, will be the renewal forms for 1987. To try and avoid the problems of previous years with the receiving of late renewals, the following guidelines were drawn up following discussion between the Subscription Manager and the Editor.

Membership renewals will be sent out with the November issue. Subscriptions are due and payable on 1 January each year. The last issue received if subscription not received will be the March issue. Subscriptions paid between 1 March and 1 September will only apply to that year and a renewal will be sent in November. Back issues of Somersault may be available. Subscriptions received between 1 September and 1 November will be for the following year.

oCo

NUMURKAH - STRATHMERTON - TOCUMWAL

On Thursday 16th October 1986, between the hours of 0800 and 1630, the Electric Staff section Numurkah - Strathmerton will be converted to Automatic Electric Staff.

The Electric Staff System between Strathmerton and Tocumwal will be abolished and replaced by the Train Staff and Ticket System to be worked in accordance with Appendix II, pages 226 to 259 inclusive, Book of Rules and Regulations and the supplementary instructions contained in General Appendix, pages 157 to 162.

NORTH EASTERN REGION WORKING TIME-TABLE

Delete E.S. opposite Tocumwal on the appropriate pages and insert symbol †.

STRATHMERTONWORKING AS AN UNATTENDED JUNCTION

The section Numurkah - Strathmerton will be worked under the Automatic Electric Staff Rules insofar as they apply, subject to the following modifications:-

**Electric Staff Instruments:-**

The Signaller at Numurkah may withdraw an Electric Staff without the co-operation of any employee at Strathmerton.

The withdrawal of a staff at Strathmerton for an up train must be effected in accordance with Rule 3 of the Electric Staff Rules, i.e. the prescribed bell signals must be exchanged and the Signaller at Numurkah must hold down the bell key to enable the Guard or Second Person to withdraw a staff.

**Failure of Electric Staff Instruments:-****UP TRAIN -**

In the event of it not being possible to withdraw a staff at Strathmerton due to a failure of the Electric Staff Instruments, the Signaller at Numurkah must inform the Train Controller accordingly.

The Train Controller, after satisfying himself as far as practicable that the necessary conditions for safety exist, may give authority to the Signaller, Numurkah on Form T.L. 110, for the issue of a Proceed Order.

The Signaller must then fill in Form "D", Proceed Order Issue Book and dictate the particulars thereon to the Guard or Second Person, who must enter them on a Form "E", Proceed Order Received Book.

The Guard or Second Person must then deliver the (yellow) Form "E" to the Driver after which the train may depart.

**DOWN TRAIN -**

If a failure of the Staff Instruments should occur and a staff cannot be withdrawn at Numurkah for a down train, the Signaller must inform the Train Controller.

The Train Controller, after satisfying himself as far as practicable that the necessary conditions for safety exist, may give authority to the Signaller at Numurkah on Form T.L. 110 for the issue of a Proceed Order. The Signaller at Numurkah on receipt of the Form T.L. 110 must fill in Form "D" and transfer the particulars thereon to Form "E" which must be handed to the Driver as authority to proceed through the section Numurkah - Strathmerton.

On arrival of the train at Strathmerton, the Guard or Second Person must collect and cancel the Proceed Order, and advise the Signaller Numurkah that the train has arrived.

The cancelled Proceed Order must be delivered by the Guard or Second Person to the Stationmaster at the next station who must forward it to the Safeworking Inspector, Wodonga.

**Guard - Second Person in Charge Working:-**

On arrival of an up train at Strathmerton, the Guard or Second Person must, after ensuring that the train is complete, proceed to the Safeworking cabin and communicate with the Signaller, Numurkah. The Signaller will instruct the Guard or Second Person in regard to (a) the withdrawal of a staff for the train, and (b) the operation of the points and Home Signals for the next train due at Strathmerton.

When a down train arrives within the Home Signal at Strathmerton, the Guard or Second Person after ensuring that the train is complete, must insert the Electric Staff in the Instrument, communicate with the Signaller at Numurkah and receive instructions regarding the working of the train on the Staff and Ticket Section (Cobram or Tocumwal Lines, as the case may be).

The Guard or Second Person must also be instructed as to whether any Home Signals are to be operated for the next train.

**No train must be permitted to foul the Single Line outside the Home-Arrival Signal unless the Driver is in possession of the proper authority for the section concerned.**

Insert the above as a new instruction on page 264 of the General Appendix.

In addition, under the heading Lift Bridge over Murray River between Strathmerton and Tocumwal, delete the present instructions and insert the following:-

1. (a) To permit the lift span of the bridge to be raised, the Staff for the section Strathmerton - Tocumwal must be inserted in the staff lock and turned. The lever may then be operated to release the two plungers on the down side of the bridge. The Annett-Key may then be withdrawn and inserted in the Annett Lock which secures the plunger on the up side (Victorian end) of the bridge. When this plunger is withdrawn, the lift span can be raised.
- (b) When the lift span is lowered to its normal position, the plunger on the up side pushed in, the Annett Key withdrawn and inserted in the lock on the down side. The lever may then be operated to normal and the Staff withdrawn.
2. The lift span of the bridge must be secured in position for a train to pass over, except when it requires to be open for river traffic or maintenance.
3. The normal position of the down Home Signal, which is worked from a quadrant in the cabin near the up side of the bridge is at stop.
4. (a) Before the lift span of the bridge is raised, the responsible employee must first see that there is no road traffic between the outside gates on the up or down side; and then close and lock the gates to prevent traffic from entering upon the line.

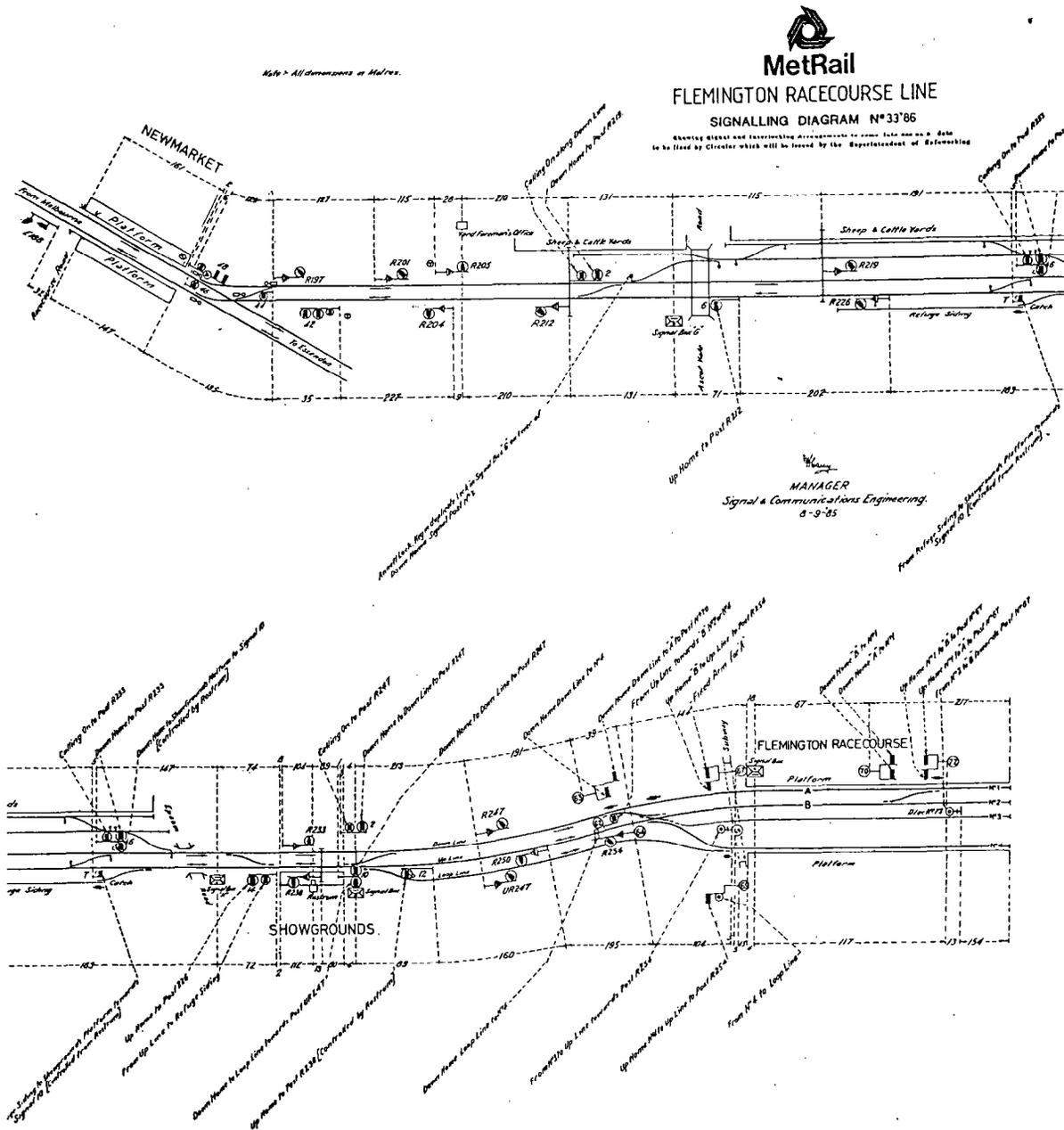
Similar precautions must be taken prior to the passage of a train, and in addition, the gates at each end of the bridge must be placed clear of the line and the rails cleared of any obstruction.

- (b) When the lift span is again in its normal position, or the train has passed clear of the road approaches, the gates may then be closed and locked across the line to again permit road traffic to pass.
- (c) When nearing the bridge in either direction, the Driver must keep a good lookout and sound long distinct whistle.
5. Prior to a train departing Strathmerton, the Guard or Second Person must inform the Signaller at Tocumwal that the train is about to depart.
6. (a) Before an up train leaves Tocumwal, an employee from the station must proceed to the bridge, and when he has ascertained that the line is safe for the passage of the train, he must advise the Signaller by telephone to that effect, who may then, provided the Driver is in possession of the Staff for the section, allow the train to proceed.

- (b) The Driver of an up train must approach the bridge with his train under control, and not proceed over it until he receives an "All Right" hand signal, which the employee previously referred to must, unless the Regulations require otherwise, exhibit near the gates at the down side of the bridge.
- (c) In the event of any failure of the telephone, the train must not be permitted to depart Tocumwal until sufficient time has elapsed to permit of the employee proceeding as far as the gate on the up side, and returning to the gate on the down side.

Page 265, clause 1, under the heading TOCUMWAL delete clause 1 referring to Wise Bros. Flour Mill Siding, and renumber clause 2 as 1.

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QUESTION TIME

by Alan Jungwirth and David Langley

My apologies for the late publication of these answers but they were overlooked for the last issue and then a lack of space prevented their inclusion at the last minute-Ed.

The answers below whilst accurate do not claim to be the entire answer because members who were not present at the meeting may discover a location that has not been covered here.

- |  |   |
|--|---|
| 1. Hume Highway (Sydney Road)<br>- Craigieburn, Tallarook, Wodonge.  | 12. Eight. (Carisbrook, Curyo, Emu, Sutherland, Litchfield, Marong, Lang Lang, Tinamba)   |
| 2. Gillies Street, Ballarat.<br>- Linton Junction, interlocked gates<br>Ballarat Cattle Yards, hand gates  | 13. Newport "A" - Block, Automatic sigs, ES, ATC.<br>Sunshine - ATC, Automatic sigs, ES, Goods lines.   |
| 3. Ballarat "A", Traralgon, Clifton Hill "B".  | 14. Northcote Loop - LL&TC, ES, Automatic sigs, Block.<br>Nth Fitzroy "A" - LL&TC, ES, Block and Staff & Ticket.  |
| 4. Bowser, Benalla, Mangalore, Warragul, Linton Junction, Ballarat "B" (co-acting), Bendigo "C" (two posts) Bendigo "D", Mordialloc and Frankston. | 15. i) failure of ES system,<br>ii) loss of ES<br>iii) loss of Bank Engine Key<br>iv) staff of CES at wrong end.  |
| 5. Chanters Lane, Tylden.  | 16. Adlake lamp manufacturers.  |
| 6. Geelong (presently "B" Box)   | 17. Philpott, Calcutt, Jones, Young, Forrest, Young, Woolley, Arnold, Irving, Graham.   |
| 7. Kyneton, Ravenswood, Kilmore East, Warrenheip.  | 18. Safeworking officers.   |
| 8a. Riddells Creek, Ravenswood, Bendigo, North Geelong, Warrenheip, Ballarat, Bacchus Marsh, Benalla, Seymour.                                     | 19. Five. (North Melbourne, South Yarra, Camberwell, Hawthorn, Brighton Beach.)   |
| 8b. North Geelong "B", Wedderburn Jcn., Ballarat East, North Geelong "B", Murchison East, Castlemaine "A".   | 20. Moe   |
| 8c. Ararat "A".  | 21. Hoppers Crossing.   |
| 9. Ararat "A", Linton Junction, Eaglehawk, North Geelong "B".  | 22. 0 Km/h.   |
| 10. Waryborough, Munistone, Traralgon, Morwell, Moe, Warragul, Inglewood, Mangalore, Wedderburn Junction, Reversing Loop (2 No.), Kyneton.         | 23. Beginning and end of the Signal and Telegraph Branch. Prior to this they were separate entities and after they were a Division of the Way & Works Branch. |
| 11. Four. (South Geelong, Bowser, Windermere, Trawalla)  |   |

(Note: Question eight was answered in three sections; a) up and down signals on the same post facing in opposite directions, b) up and down signals on the same post facing in the same direction, and c) undefined, the left hand arm on post 1 has down and up trains obeying the indication.)

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ANNOUNCEMENT ANNOUNCEMENT ANNOUNCEMENT ANNOUNCEMENT ANNOUNCEMENT

NOVEMBER MEETING - SYLLABUS ITEM.

NSW and Victorian member, and Signal Branch Engineer, Noel Reed, will be in Victoria in November due to I.R.S.E. commitments and will also address the November meeting of the S.R.S.V. All members are invited to attend and here what will be an informative talk by Noel. Remember, the meeting will be held on Friday, 21 November 1986 and will start at 2000 hours. The venue will be the usual location of the A.R.H.S. Library Room at Windsor station and is reached via the footbridge.

--oOo--

S.R.S.V. CROSSWORD No 16

compiled by S. McLean

ACROSS

1. Under BR, we'd redesign this little-used terminus
6. Inspector in action (2)<sup>(10)</sup>
7. Lines seen in Arbroath and Carrbridge (2)
9. The first thing to grasp when learning the frame?
12. Stall on the Port Fairy line (4)
14. Loco found in Pinjarra (2)
15. What we'd all like to do to the S.R.S.! (6)
18. The state contains railways and vice versa (2)
19. Mr. Burton found next to a bar (4)
20. See 32 across
21. First class car can still be seen in Adelaide (2)
23. Blue feature of the South East (4)
- 25 and 8 down. To put down spectacles and straighten arms (7,6)
29. Strange, strange, no leading shunter at this western station (6)
30. Queensland station in the country and in a mountainous area (7)

|    |    |   |    |    |    |   |   |    |    |   |   |    |   |    |    |    |   |
|----|----|---|----|----|----|---|---|----|----|---|---|----|---|----|----|----|---|
|    | 1  | W | E  | D  | 2  | D | E | 3  | R  | 4 | B | 5  | U | R  | N  |    |   |
| 6  | I  |   |    |    | O  |   |   | 7  | B  | R |   | E  |   |    | 8  | W  |   |
|    | 9  | C | 10 | A  | 11 | T | C | H  | H  | A | N | D  | L | E  |    |    |   |
|    | 12 | K | I  | R  | K  |   |   |    | K  |   | F |    |   |    |    |    |   |
| 13 | T  |   | 14 | R  | A  |   |   |    | 15 | B | E | 16 | L | O  | 17 | N  |   |
|    | R  |   |    |    |    |   |   | 18 | W  | A |   | 19 | A | R  | C  | H  |   |
| 20 | O  | F | S  | C  | O  | T | L | A  | N  | D |   |    |   |    |    | T  |   |
|    | L  |   |    |    |    |   |   |    | L  |   |   | 21 | A | 22 | D  |    |   |
| 23 | L  | A | 24 | K  | E  |   |   | 25 | B  | A | L | 27 | A | N  | C  | 28 | E |
|    | E  |   |    |    |    |   |   | 29 | G  | E | R | A  | N | G  |    |    | A |
| 30 | Y  | A | N  | 31 | D  | I | N | A  |    |   |   |    |   |    |    |    | C |
|    | S  |   |    | 32 | G  | R | E | A  | T  | N | O | R  | T | H  |    |    |   |

32 and 20. Railway system involving start of the Gordon clan (5,5,2,8)

DOWN

1. Trains run to a neighbouring terminus Thurs. O., but it can't hold a candle to this one! (4)
2. Place cars into a dead end platform
3. Buffet car served the first of Rod's bad hamburgers (3)
4. Baker rediscovered this safety feature
5. Communist president has displeasure at this record of accidents (3,3,6)
8. See 25 across
10. Braking system seen near Londonderry
11. Car then refurbished - a whole rake of cars, in fact (7)
13. Railway feature found on platforms and on tracks (8)
15. Where it was once refreshing to stop while the trams went by (8)
16. Well, another clue about a sleeping car! (3)
17. Narrow gauge van is unattended
18. Don't go yet! This is the result of a slow timetable (2)
22. Did Churchie first have 1500volts
24. It preceded George on the Great Western (4)
25. Three locos leave Benalla for the top of the hill (4)
26. Automatic signal prefix the French had something to do with (2)
27. System seen in Zanthus (2)
28. Everyone is found behind Williamstown B. (4)
29. Fasten the sleeper (3)
31. Driver knows the road backwards

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Solution to No 15. Across-1. Bracket, 5. Exp, 7. Rex, 9. Austrailpass, 11. Ayr, 12. SE, 13. Coleman, 14. Ever, 15. Gas, 17. NV, 18. Phurles, 20. CE, 21. Leeor, 23. LE, 24. AS, 25. Rosebery, 29. Slab, 31. TC, 33. Answers, 36. Detonators. Down-1. Branch, 2. Absolute, 3. Korumburra, 4. Triangles, 5. Express, 6. Passenger, 8. Ely, 10. Serve, 16. AE, 19. HO, 21. Last, 22. ES, 23. Lever, 26. Oban, 27. Mast, 28. Yass, 30. Lit, 32. CD, 34. NA, 35. WO.

--o0c--

*Handwritten signature*