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SIGNALLING RECORD SOCIETY OF VICTORIA INC



The 1999 SRS Showday tour covered Geelong A and South Geelong. This is a photo of the 20 lever Rocker frame at South Geelong taken on the tour. The frame was provided on 5 August 1901 when Queenscliff Junction was abolished and the Queenscliff line extended back into South Geelong station. The layout has been extensively revised several times since then and full details can be found in the tour notes. Currently, South Geelong is a very busy station indeed as most peak hour interurban runs from Melbourne terminate there. Loco hauled trains, of course, need to run around, and the passage of the Warrnambool trains often require the interurban's to refuge in a siding. Perhaps the most interesting feature of the frame is lever 18. This is a closing lever and was provided in February 1986 as part of a interlocked electric switchout (without train) installation. The long electric staff section was to have been Geelong B - Winchelsea, but it was never brought into use. As South Geelong is currently continuously staffed, the provision of switchout facilities is periodically revisited, but the cost, so far, has been too high. More photos taken at South Geelong can be found on the back page.

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MINUTES OF MEETING HELD FRIDAY SEPTEMBER 17, 1999, AT THE SURREY HILLS NEIGHBOURHOOD CENTRE, 1 BEDFORD AVE, SURREY HILLS.

Present: - J.Black, W.Brook, B.Cleak, G.Cleak, B.Crosby, G.Cumming, C.Gordon, W.Johnston, K.Lambert, D.Langley, B.McCurry, J.McLean, T.Murray, N.Reed, B.Sherry, P.Silva, R.Smith & R.Whitehead

Apologies: - N.Bamford, G.Candy, J.Churchward, A.Hinde, G.O'Flynn & A.Waugh.

The President, Mr. David Langley, took the chair and opened the meeting @ 20:14 hours.

Minutes of the July 1999 Meeting: - Accepted as published. J.McLean / B.Sherry. Carried.

Business Arising:- Nil.

Correspondence: - Payment for the use of the meeting room was sent to the Surrey Hills Neighbourhood Centre.

A letter was sent to Tony Palermo congratulating him on his recent retirement from Victrack Access & thanking him for the assistance he had given to the S.R.S.V. over many years.

A letter was sent to David Ward at Victrack Access requesting permission for the signal box tour on Melbourne Cup Day.

A letter was sent to new member Steven Haby of Melbourne welcoming him to the S.R.S.V.

Letters were sent to a selection of bus companies in Geelong requesting quotes for the hire of a bus for the tour on Melbourne Cup Day.

A letter was sent to the Friends of the National Rail Museum in York, requesting more information on the British signalling history book. P.Silva / B.Whitehead. Carried.

Reports: - Tours. A report was received from the S.R.S.V. members who attended the recent S.R.S.N.S.W. tour of signalling facilities on the Botany Line in Sydney.

Glenn Cumming described arrangements for the upcoming signal box tour to be held on Melbourne Cup Day in the Geelong area. Further details available from the Secretary.

Glenn Cumming advised the meeting of planning for the 25th Anniversary Tour. The start date has been set down for Monday 14.02.2000 at Moss Vale in New South Wales. The proposed agenda was discussed. A dinner is planned for the night of Friday 18.02.2000 to coincide with the scheduled meeting of the S.R.S.V. Further details will accompany the next mailout.

General Business: - Glenn Cumming advised the meeting of the imminent release of 3 publications of interest to signalling enthusiasts: - A reprint of Fifty Years of Railway Signalling by O.S. Nock available from Peter Kay, a new semi - technical book titled Introduction to Signalling from the I.R.S.E. in the U.K. & a new multi volume book from the National Rail Museum on the history & development of British railway signalling. Further details will accompany the next mailout.

Chris Gordon & Rod Smith described the events at Ringwood last weekend when the Computer Based Interlocking failed.

Keith Lambert advised that Metrol moves from Batman Avenue to Level 5 at Transport House on Saturday 16.10.1999. Testing for the move has been in progress since Saturday 21.08.1999.

Keith Lambert advised that Solid State Interlocking had replaced the relay interlockings for the "B" & "D" Box areas at Flinders Street. The interlocking for the "A" Box area is still relay based.

Keith also noted that the light signal at the entrance to the tunnel at Jolimont had recently been converted to an LED unit.

Reports were received concerning the recent collision at Zanthus in Western Australia. This led to a discussion on the working of crossing loops on the T.A.R.

Jack McLean tabled a document that he had received from Peter Barry in Adelaide describing the opera-

tion of self restoring points on the T.A.R.

Bill Johnston asked if anybody knew the results of the investigation into the collision near Mount Christie in 1997. No official results were known but some third hand comments were discussed.

Noel Reed described an LED replacement for searchlight signals.

Chris Gordon spoke about the renewal of the home signal off the Glen Waverley Line at Burnley.

Noel Reed described the resignalling at Hornsby in New South Wales where a Solid State Interlocking will replace a 120 lever pistol, grip frame. The project is due for completion in October 1999.

Graeme Cleak reported that the 4D train is now out of service & is for sale.

Brett Cleak & Tom Murray reported that a staff box had been provided on the signal box wall at Newport to allow No.9712 on Sundays to work through while the Signaller was off duty.

Syllabus Item: - The President introduced member Noel Reed from New South Wales.

Noel spoke to the meeting about his research into the development of interlocking in New South Wales & the spread of safeworking systems across the rail line of New South Wales.

Noel started by giving a brief overview of his career as a railway signal engineer in New South Wales before moving on to the main topic. A considerable amount of material was discussed during Noel's presentation which was illustrated with maps, circuit plans, diagrams, drawings & train control graphs.

At the end of his presentation, Noel answered a range of questions from the floor relating to signalling in New South Wales.

At the conclusion of the syllabus item, the President thanked Noel for the very enjoyable presentation and this was followed by acclamation from those present.

It is hoped to publish a more detailed report on Noel's presentation in a future issue of Somersault.

Meeting closed @ 22:53 hours.

The next meeting will be on Friday 19 November, 1999 at the Surrey Hills Neighbourhood Centre, Bedford Avenue, Surrey Hill, commencing at 2000 hours (8.00pm).

SIGNALLING ALTERATIONS

The following alterations were published in WN 30/99 to WN 38/99. The alterations have been edited to conserve space. Dates in parenthesis are the date of the Weekly Notice.

- 29.07.1999 **NE Standard Gauge** (SW 1179/99, WN 31/99)
From 1200 hours on Thursday, 29.7., control of the NE Standard Gauge was transferred to the ARTC Control Room at Mile End.
- 01.08.1999 **Train Control** (SW 1177/99, WN 31/99)
Commencing Sunday, 1.8., Room 4 at Centrol was closed. The territories are now:
- | Room | Control Area | Radio Channel |
|------|--|---------------|
| 1 | Melbourne - Albury (BG) | 6 |
| | Seymour - Tocumwal, Dookie, Cobram & Echuca | 5 |
| | Benalla - Oaklands | 5 |
| | Melbourne - Piangil, Inglewood, Moulamein, & Deniliquin | 4 |
| 2 | Pyrenees Loop - Wolseley | 6 |
| 5 | Melbourne - Warrnambool | 8 |
| | West Line Brooklyn Loop, Brooklyn - Sunshine, Tottenham B - Sunshine | 8 |
| | Melbourne - Stony Point, Sale, & Nyora | 7 |
| 7 | North Geelong C - Yelta, Maroona - Portland | 5 |
| | Melbourne - Ararat (BG), Ouyen - Pinnaroo, Ararat - Castlemaine | 3 |
| | Murtoa - Hopetoun, Dimboola - Yaaapeet | SMR |
| | Dunolly - Robinvale, Korong Vale - Kulwin | 8 |
- As from Friday, 2.7., the primary communication on the Dimboola - Yaaapeet and Murtoa - Hopetoun lines will be by State Mobile Radio (SMR). Channel 6 can be used in an emergency.
- 01.08.1999 **Melbourne Operations Terminal & Steel Terminal** (SW 1176/99, WN 31/99)
These terminals will operate 0600-1400 hours and 1700-0200 hours each day. The Signaller, West Tower will control movements in these two terminals when the NRC Shunt Crew is not on duty. The NRC Shunt Crew are to inform the Signaller, West Tower, when they commence and cease duty. When the Signaller, West Tower, is controlling movements, BHPT staff must inform the Signaller, West Tower when gantry crane operations commence and cease.
- 01.08.1999 **Moorabbin** (SW 1178/99, WN 31/99)
On Sunday, 1.8., automatic Pedestrian Gates were commissioned at Exley Road (18.885 km) on the Down side of Moorabbin. The gates operate automatically for Down trains and are interlocked with Up Home MRN711 and Down Automatic MRN604.
- (02.08.1999) **Book of Rules, Rule 28B, Section 2 (Hand Signal Lamps and Flags)** (SW 1166/99, WN 30/99)
Amend the first sentence to read "Signallers must always have Hand Signal lamps ready for use from dusk to clear daylight and during inclement weather, and Flags (Red and Green) from clear daylight to dusk." (Removes the requirement to replace dirty or faded flags, and adds the requirement to have flags ready during daylight.)

- (02.08.1999) **Book of Rules, Rule 2E, Section 3 (Detention at Disc or Dwarf)** (SW 1169/99, Wn 30/99)
 Add a new Rule 2E: Detention at a Disc or Dwarf Signal
 When a train is detained at a Disc or Dwarf Signal, the Driver must immediately sound one long whistle. If the Signal remains at the 'Stop' position, or the train is unable to proceed, the Driver must contact the Signaller either by post telephone or radio, to advise of the detention. When contacted, the Signaller must advise the Driver of the reason for the delay and the likely duration. If a competent employee is aboard, they must carry out the duties as laid down for the Driver. The Train Controller must be informed if the Driver is unable to contact the Signaller.
- (02.08.1999) **Ferntree Gully - Upper Ferntree Gully - Upwey - Belgrave** (SW 1168/99, WN 30/99)
 Operating Procedure 41A has been added to deal with the failure of signals in these sections.
 The Automatic and Track Control of Signalling is in force. The Signaller at Upper Ferntree Gully will act as Train Controller as far as the routing of trains and the issue of Caution Orders. The use of Authorisation Form 2382 by the Train Controller Metrol will not be required.
 Should a train come to a stand at a Home signal and there is no sign of an approaching train, the Driver must communicate with the Signaller at Upper Ferntree Gully by the post phone, or by radio or mobile phone if the post phone has failed. The Driver must state their name, grade, signal number, train number, originating station and destination.
 If the signal has failed, but the points are detected set for the movement, the Signaller must complete and dictate the appropriate Caution Order. The Driver must take down the Caution Order and repeat it back. If the points are not detected set for the movement, the Signaller must instruct the Driver to manually operate the points to the required position. The points may be left in the hand operating position.
 The appropriate forms to use are:
 Form 2367 (ATC System Caution Order): Post 2R Ferntree Gully, Posts 16, 18, 20, 22*, 24, and 26* Upper Ferntree Gully, Posts 42 and 44 Upwey, and Posts 56 and 58* Belgrave (* for movements to main line).
 Form 2377 (Signallers Caution Order): Post 2L Ferntree Gully, Posts 10, 22*, and 36 Upper Ferntree Gully, Posts 40 and 46 Upwey, and Posts 52 and 58* Belgrave (* for movements to sidings).
 Verbal Authority: Posts 32 and 34 Upper Ferntree Gully and Post 54 Belgrave.
- 08.08.1999 **Richmond Junction** (SW 1183/99, WN 31/99)
 On Sunday, 8.8., Down Automatic 870 (Sandringham line) was relocated from the signalbridge to a ground mast 22 metres in the Up direction. Amend 29/98.
- 08.08.1999 **Caulfield** (SW 1189/99, WN 32/99)
 On Sunday, 8.8., 'hatchet' handlocking bars were fitted to Points 604U, 604D, 608U, 608D, 612U, 612D, 623, 633, 642U, 644U, 644D, 648U, 648D, 652, 667U, 667D, 673, and 677D.
 This type of handlocking bar consists of a bar which can be folded into a guide fitted at right angles to the point blade. A pin secures the bar against the blade and a 5P padlock secures the pin. The handlocking bars can be used instead of a point clip to secure the points.
- 08.08.1999 **General Motors** (SW 1187/99, WN 32/99)
 On Sunday, 8.8., the signalbox was abolished. Diagram 35/99 replaced 47/97.
 Up Home 3 and Dwarfs 10, 11, and 13 were abolished. Points 4, 7, & 8, and Plungers 5 & 6 were abolished. The controls were removed from Down Automatic D1033 and Up Automatic D1152. Up Home 2 and Down Home 14 were converted to Automatics and renumbered D1098 and D1097 respectively.
 A 5P keyswitch was provided on the Up platform to control D1098 and this signal remains interlocked with the level crossing equipment at Progress Street.
- (09.08.1999) **Gheringhap - Yelta** (SW 1174/99, WN 31/99)
 Circular SW 1150/99 is amended as follows:
79 Gheringhap Broad Gauge Loop
 The 'Commence' and 'End' Train Order Working Boards are situated at the Down end fouling point of the Broad Gauge Loop. The 'Commence' and 'End' Section Authority Working Boards are situated at the Up end fouling point of the Broad Gauge Loop.
 DICE operation of the points and signalling at Gheringhap Broad Gauge loop will be retained. Before issuing an Up Train Order, the Freight Victoria Train Controller must obtain permission from the ARTC Train Controller. Before granting permission, the ARTC Train Controller must apply a Track Block command to the track the train will arrive on. The Train Order must instruct the Driver as to which track the train is to arrive into at Gheringhap. On approach to Gheringhap, the Driver will switch the radio to 1200 mode to use the DICE code, and then to Channel 2 to perform a text test and obtain a Section Authority. The Driver must change back to Channel 5 when the Train Complete message has been received from TAILS and fulfil the Train Order. The Driver is then to change back to Channel 2.
 Permission is granted to issue Down trains with a Train Order at North Geelong C when circumstances permit. Otherwise, the Train Order is to be issued with the train is stationary at Gheringhap Loop. In either case, the normal radio check must be conducted when issuing the Train Order (this will involve the Driver changing to Channel 5 and 600 mode when receiving the Train Order at Gheringhap). When departing Gheringhap, the Driver will change back to Channel 2 and 1200 mode to receive the 'Train Complete' message from TAILS and to relinquish the Section Authority. The radio is then to be restored to

Channel 5 and 600 mode.

90 Ouyen

Ouyen must be attended by a Signaller whenever i) a train is to depart for the Panitya branch *from the main line*, ii) a train is to arrive from the Panitya branch, iii) No 2 Track is to be fouled within the station yard, or iv) a cross is to take place using No 1 and 2 Tracks. The Signaller is to be in attendance 30 minutes prior to the arrival of the train, the issue of an opposing Train Order (where a cross is to occur), or the arrival of a Train with the Staff. When a train is to run on Ticket, the Signaller is to be in attendance 10 minute prior to APIX being received.

Issue of Through Train Orders. Through Train Orders may be issued for Trains 9140 and 9141 through Ouyen provided a cross is not to take place. The Train Controller must advise the Signaller when a Through Train Order has been issued. The Signaller must note this advise, including the Train Order number, in the TRB and ensure that the signals are placed to Proceed for the train in sufficient time to prevent the train from being detained.

If a train is to depart Ouyen towards Cowangie under 'Driver in Charge' conditions (see Procedure 91), the train must depart from No 3, 4, 5, or 6 Tracks. When signing on, the Driver of the branch line train must check with the Train Controller to determine if a Through Train Order has been issued, and, if so, when the train will pass through Ouyen.

93 Mildura

The points leading to the sidings at the Down end of Mildura Yard are secured by an A Pattern Annett Lock. The Annett Key is normally kept in a duplicate lock on the panel. When the key is removed from the lock, Home D is secured at Stop. During shunting operations, the employee in charge of shunting will instruct the Driver to pass Home D at Stop provided the employee is in possession of the Annett key and the Signaller is aware of the shunting movement taking place.

(09.08.1999) **Wallan** (SW 1181/99, WN 31/99)

Commencing forthwith Wallan will not be normally switched in.

(09.08.1999) **Kilmore East** (SW 1181/99, WN 31/99)

Commencing forthwith the signalbox hours will be:

Monday - Thursday 0535 hours to clearance of 9520

Friday 0535 hours to clearance of 8338

Saturday 0700 hours to clearance of 8308 & 1800 to clearance of 8329

Sunday 1800 hours to clearance of 9520

16.08.1999 **Flinders Street** (SW 1184/99, WN 32/99)

On Monday, 16.8, the relay interlocking controlling the Burnley Local Lines was replaced by a computer based interlocking (Stage D1). Diagrams 31/99 and 33/99 replaced 9/99 and 29/98 respectively.

Up Homes 341 (approach to No 4 Platform) and 575 (approach to No 5 Platform) and Down Homes 346 (departure from No 4 Platform) and 576 (departure from No 5 Platform) now have Underground style heads. Up Home 341 is now located 7 metres in advance of the old post. Up Home 575 is now located adjacent to Home 576.

Up Home 345 was renumbered 343. A new Up Home 345 was provided at the clearance point of the junction between the Up and Down Burnley Local lines. Up Home 347 (Burnley Local) was replaced by a new colourlight signal 140 metres in the Down direction. Up Automatic 293 (Burnley Local at Richmond Junction) was replaced by a new colourlight signal 186 metres in the Down direction.

New Down Automatic 282 (Burnley Local) was provided at the clearance point between the Up and Down Burnley Local lines on the Down side of the lines. It has an Underground head. Down Automatic 290 (Burnley Local) was replaced by a new colourlight signal 30 metres in the Down direction. Down Home 362 (Burnley Local at Richmond Junction) was replaced by a new colourlight signal 93 metres in the Down direction.

Down Home 338 (Burnley Local) and Up Automatic 291 (Burnley Local) were abolished.

Points 241 and 247 were renumbered 246 and 245 respectively.

(23.08.1999) **Track Permission** (SW 1186/99, WN 33/99)

Track Permission (for Road/Rail Vehicles) must not be granted for a section at the same time as an opposing Train Order or Track Permission. Opposing authorities are those issued to the same Block Point, Intermediate Train Order Station, Kilometre post, Intermediate Siding, Attended Crossing Station with the signals at Proceed, and Unattended Junction.

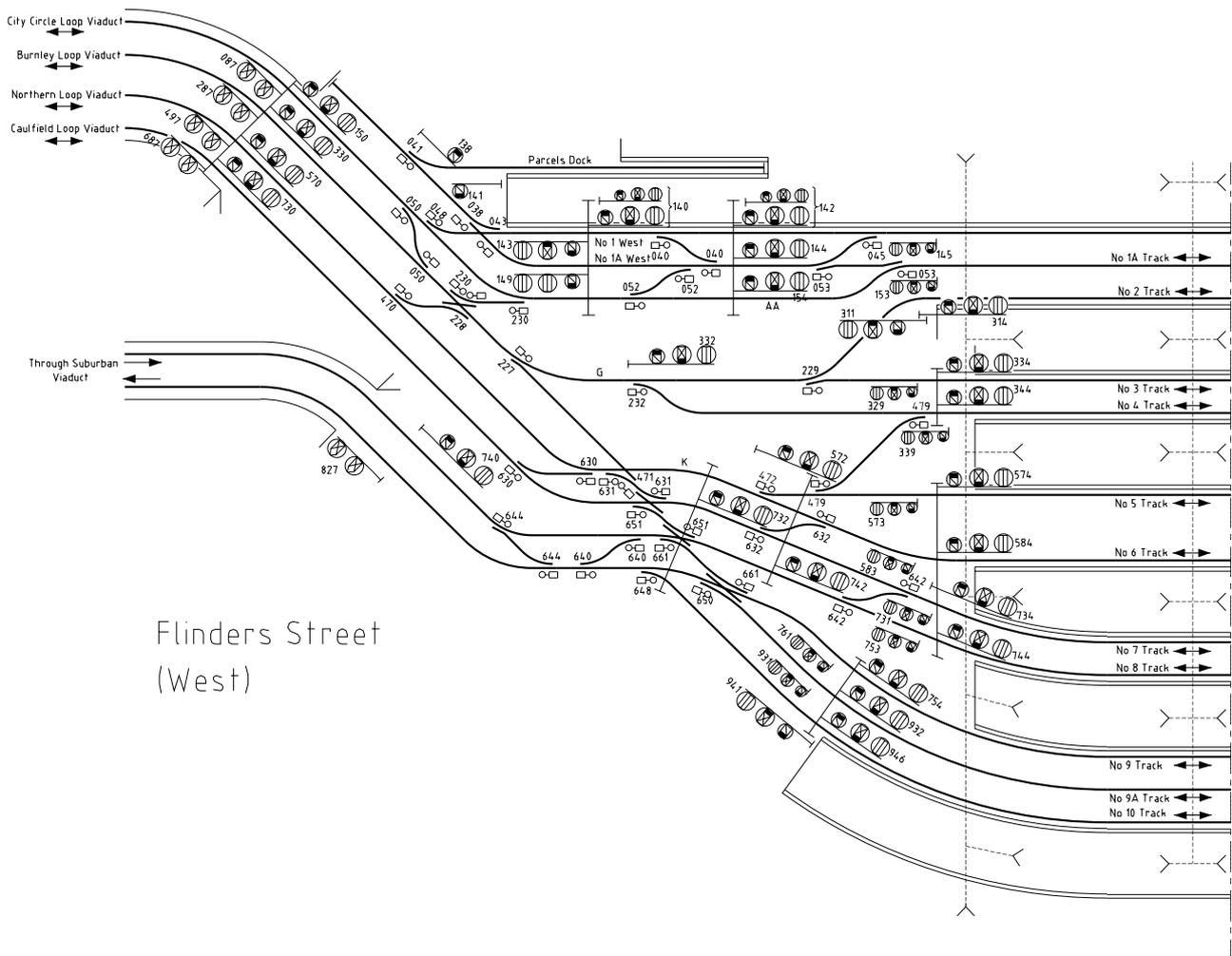
In a similar fashion, authority must not be given for a Train and a Road/Rail Vehicle to approach an Unattended Staff Station (in an Automatic Electric Staff area) simultaneously.

23.08.1999 **Flinders Street** (SW 1199/99, WN 34/99)

On Monday, 23.8, the relay interlocking controlling the Burnley Through Lines was replaced with a computer based interlocking (Stage D2). Diagram 39/99 replaced 33/99.

Up Home 331 (approach to No 3 Platform) and Down Home 336 (departure from No 3 Platform) were provided with an Underground style heads.

Up Home 321 (No 2 East Road) was renumbered 317 and provided with an Underground style head. New Up Home 335 (Burnley Through) with an underground head was provided 23 metres on the Down side of



Crossover 231. New colourlight Up Automatic 267 (Burnley Through) was provided 40 metres on the Up side of the Batman Ave bridge. Up Automatics 271 and 273 (Burnley Through) at Richmond Junction were replaced by new colourlight signals 207 and 280 metres respectively in the Down direction.

Down Automatic 270 (Burnley Through) at Richmond Junction was replaced by a new colourlight signal 308 metres in the Down direction. New Down Automatic 262 (Burnley Through) with a colourlight head was provided 300(?) metres on the Down side of Down Home 318.

Down Home 320 and Up Home 319 were abolished. Down Home 352 and Up Home 353 at Richmond Junction were abolished.

Crossover 231 was renumbered 235.

Track circuits 227T, 023T, and 215T were renumbered 317T, 333T, and 335T respectively. Track circuit 318T was shortened at the eastern end to a point adjacent to Points 60U. Track circuits 232T, 243T, 270T, 271T, 273T, 319T, 320T, 325T, 351T, 352T and 353T were abolished. Track circuits 262T, 267T, 270T, 271T, 273T, 320T, 367T, 368T, 370T, and 371T were provided.

25.08.1999 **Flagstaff** (SW 1203/99, WN 34/99)

On Wednesday, 25.8., LED heads were provided on trial at Homes 611 (Caulfield Loop) and 389 (Burnley Loop).

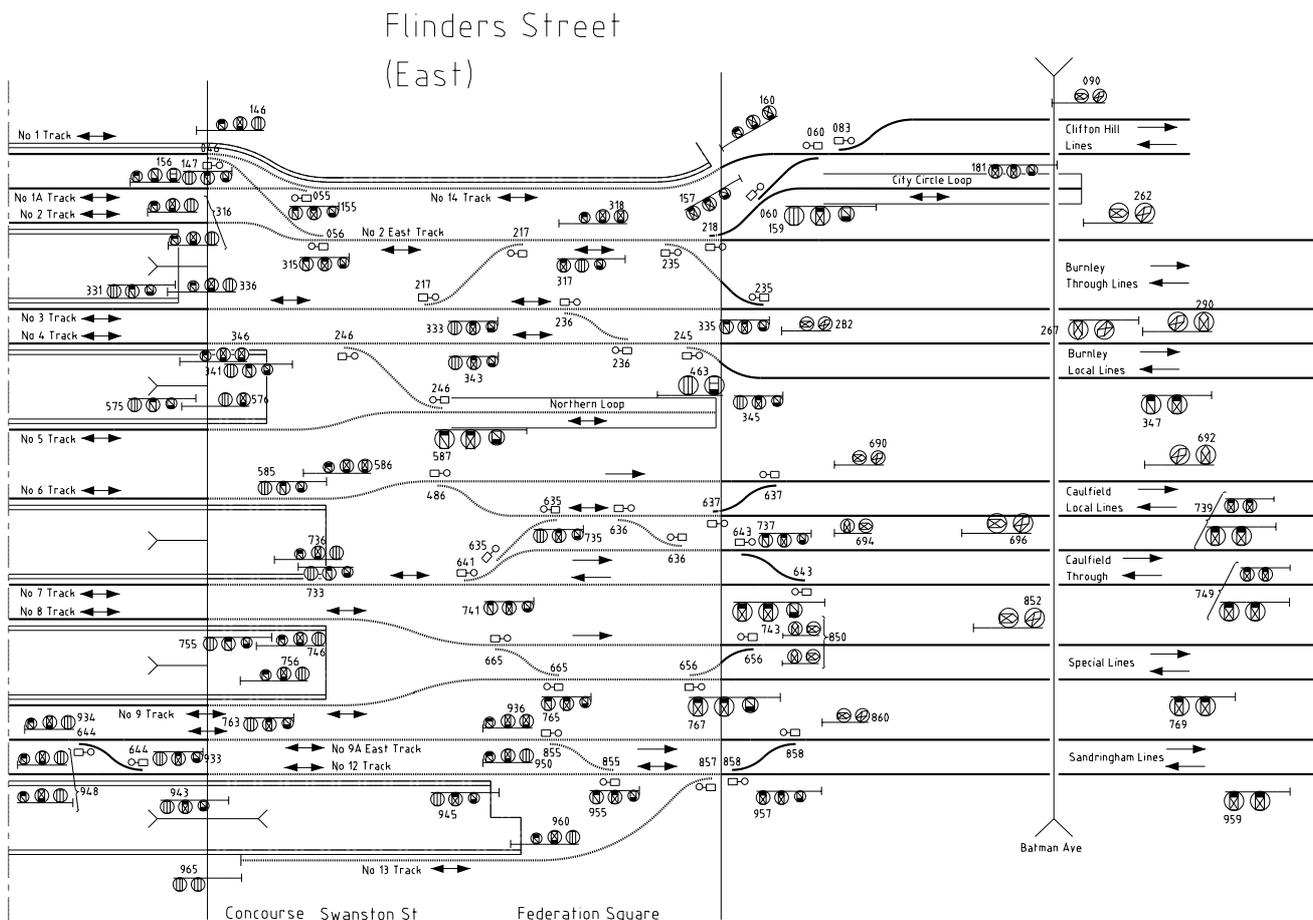
27.08.1999 **Appleton Dock** (SW 1208/99, WN 34/99)

On Friday, 27.8., a new level crossing was provided at Enterprise Road (3.263 km), 197 metres on the Up side of Coode Road. The road crosses the main line and Nos 3 & 4 Tracks of the Grainco Sidings.

The crossing is equipped with flashing lights. The Flashing Lights are operated automatically by Down Trains. For Up main line movements the Flashing Lights will activate when the train moves onto the short track circuit on the Down side of the crossing for 20 seconds, or by operating the push buttons located on the Down side of the crossing, or at Points A or B at the Grainco Siding (these points are located at the entrance to the sidings). The Flashing Lights will automatically cancel after the train clears the level crossing.

29.08.1999 **Jolimont - West Richmond** (SW 1205/99, WN 34/99)

On Sunday, 29.8., the Style VR heads on Down Automatic S57 were replaced by LED heads with 3.5" lights. The A light was lowered 500mm.



30.08.1999 **Flinders Street** (SW 1207/99, WN 34/99)

On Monday, 30.8., the relay interlocking controlling the Clifton Hill line and Platforms 1 and 14 was replaced by a computer based interlocking (Stage D3). Diagram 41/99 replaced 37/99.

Up Home 155 (No 14 Platform) can now display 'Normal Speed Warning'. Down Home 156 (No 1A Track) can now display Normal Speed indications.

Up Home 147 was provided to control movements from either No 14 Platform or No 2 East Track to No 1 Platform towards Home 145. The new signal is a ground mounted Underground style signal and is situated between Nos 1 and 1A Tracks adjacent to Points 46.

(30.08.1999) **Bendigo - Piangil & Seymour - Shepparton** (SW 1202/99 WN 34/99)

Track Warrants may be used on these two lines.

01.09.1999 **Ararat** (SW 1214/99, WN 35/99)

On Wednesday, 1.9., the A pattern Annett Lock on the Up end points was replaced by a B pattern lock. The B pattern Annett Key is engraved "Ararat - Up end" and is normally kept in the box at the Down end with the A pattern Annett Key. Amend SW 1086/99 and 1089/99.

12.09.1999 **Newport** (WN 36/99)

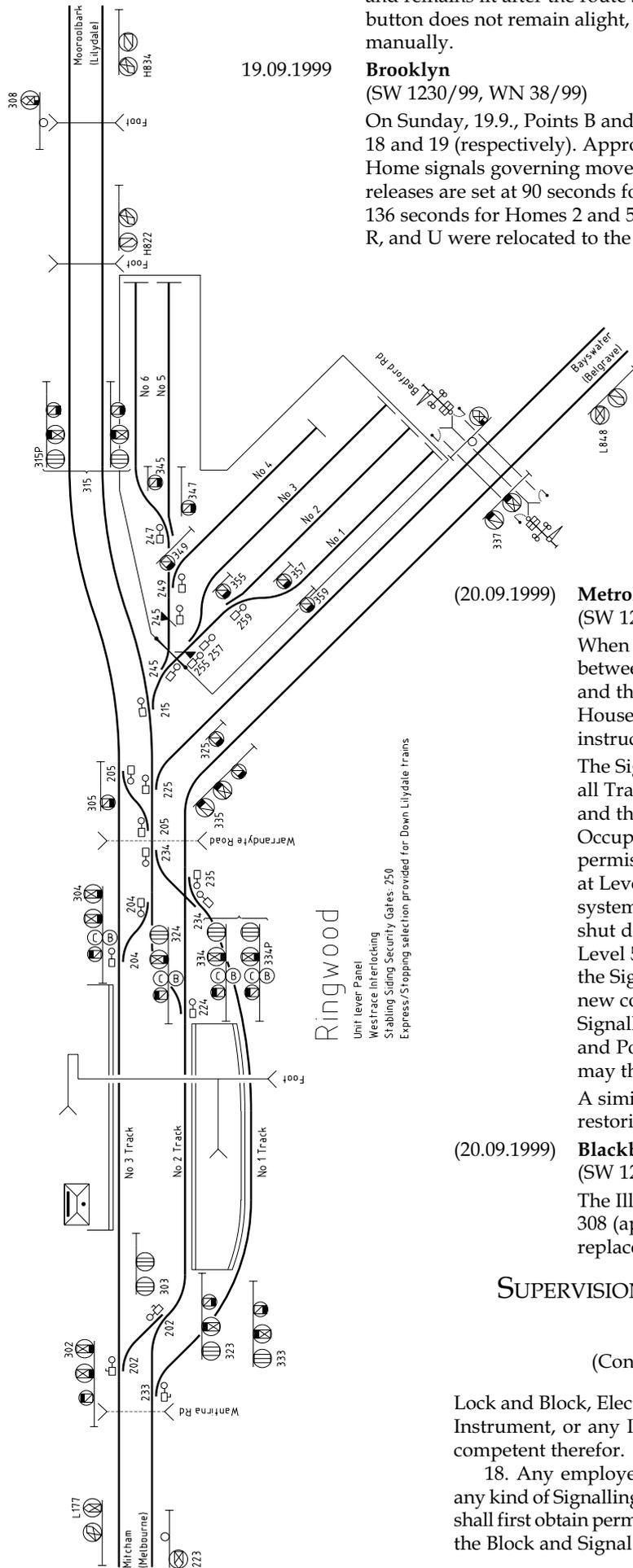
Commencing Sunday, 12.9., a Signaller will not be in attendance for the passage of 9712 each Sunday. Prior to ceasing duty on Sunday morning and after 9792 has cleared Brooklyn, the Signaller must obtain a Staff for the Newport - Brooklyn (East Line) section and place it in the locked "Staff Box" mounted on the wall of the signalbox after clearing Homes 704 and 724. The Driver of 9712 must obtain the Staff from the box and, if in possession of a Master Key, place it in the box. On arrival of train 9712 at Brooklyn, the Signaller must place the Staff in the pocket of the instrument until Newport is attended and the Train Arrival signal sent.

15.09.1999 **Showgrounds Junction - Flemington Racecourse** (SW 1223/98, WN 37/99)

On Wednesday, 15.9., Down Automatic UR247 on the Loop Line had its light extinguished and a cross affixed. Amend Diagram 17/98.

16.09.1999 **Westall** (SW 1225/99, WN 37/99)

On Thursday, 16.9., point detection indicators were provided on the Drivers Control Units at Westall Sidings. Point detection indications is provided for all points at Westall (Points D, E, F, G, H, J, K, and L). Clause B of Circular SW 21/98 is amended. The Driver must check that the point detection indicator lights



and remains lit after the route setting button is released. If the button does not remain alight, the Driver must operate the points manually.

Brooklyn
(SW 1230/99, WN 38/99)

On Sunday, 19.9., Points B and D were motorised and renumbered 18 and 19 (respectively). Approach locking was provided on the Home signals governing movements over the points. The time releases are set at 90 seconds for Homes 1, 3, 8, 9, 10, and 12, and 136 seconds for Homes 2 and 5. The indications for Points A, G, N, R, and U were relocated to the control panel.

(20.09.1999)

Metrol
(SW 1227/99, WN 37/99)

When it is necessary to transfer control between the old signalling panels at Metrol and the new panels at Level 5 Transport House for testing purposes the following instructions must be followed.

The Signaller must complete a Log Book of all Track Blocks, Point Sleeve Commands, and the protection details for any Absolute Occupations. The Signaller may obtain permission from the Signalling Supervisor at Level 5 to shut down the computer system at Metrol. Once the system has been shut down the Signaller will proceed to Level 5 Transport House. Upon arrival of the Signaller at Level 5, but not before, the new computer system will be booted. The Signaller must then enter the Track Blocks and Point Sleeve Commands. Signalling may then be resumed

A similar procedure is to be followed when restoring control to Metrol.

(20.09.1999)

Blackburn
(SW 1229/99, WN 37/99)

The Illuminated Letter A on Down Home 308 (applying from Platform 2) has been replaced by a LED unit.

SUPERVISION OF BLOCK SIGNALLING WORKING

(Continued from page 100)

Lock and Block, Electric Train Staff, or Electric Train Tablet Instrument, or any Interlocking Frame, unless certified as competent therefor.

18. Any employee who desires to learn the working of any kind of Signalling Instrument or any Interlocking Frame shall first obtain permission through his superior officer from the Block and Signal Inspector.

SUPERVISION OF BLOCK SIGNAL WORKING, 1909

Wilfred Brooke has been kind enough to forward a copy of C 7/09 "Supervision of Block and Signal Working" effective 16 August 1909 covering the duties of Block and Signal Inspectors.

INTERPRETATION

1. In this circular "Employee" shall mean any person in the employ of the Commissioners, whether in receipt of a salary or of a daily wage; "Signalman" shall mean any employe in charge of the working of Signals, and "Signal-box" shall mean any place at which Signal levers are fixed.

2. The portion of C. 1/97 relating to the duties of and districts controlled by Traffic Inspectors, and so much of any other instructions as conflicts with those contained herein, are hereby cancelled.

BLOCK AND SIGNAL INSPECTORS

3. On and after 16th August, 1909, the title of Traffic Inspector will be changed to "Block and Signal Inspector," and such officers will be located at and will be in charge of districts as shown hereunder:-

Name	Head Quarters	District (See Clause 6.)
Mr A. Mathieson	Flinders-street	No 1.
Mr J Patrick	"	No 1 (Assistant)
Mr T. Cook	Spencer-street	No 2.
Mr H. Lynch	"	No 3.
Mr P. Pettitt	"	No 4.
Mr T. Beary	"	(Relieving and Examining Inspector)

4. The Block and Signal Inspectors shall be under the direct control and supervision of the Superintendent of Goods Train Service, and shall meet in conference at his office on the third Monday in each month. The Superintendent of Goods Train Service shall preside at every such conference, and shall furnish the General Superintendent of Transportation with a full report of the proceedings and of any conclusions reached thereat. The minutes of each conference shall be filed by the Superintendent of Goods Train Service for record and reference.

5. The Inspector in charge of No 1 District will be the Senior Block and Signal Inspector. The Assistant Inspector in No 1 District, the Inspectors in charge of Nos 3 and 4 Districts respectively [sic], and the Relieving and Examining Inspector will interchange annually, the Assistant Inspector taking up the position of Relieving and Examining Inspector, the latter No 4 District, and so on.

6. [The extent of each districts is: No 1, Metropolitan, extending to Werribee, St Albans, Broadmeadows, and Dandenong (inclusive); No 2, Eastern and North Eastern except Goulburn Valley Lines beyond Mangalore; No 3, Western and South Western (including Waubra line, but not Waubra Junction - Maryborough & Maryborough - Ararat); and No 4, Northern and Midland and Goulburn Valley Line and branches.]

DUTIES OF BLOCK AND SIGNAL INSPECTORS

7. The duties of the Block and Signal Inspectors within their respective districts will be:-

- (1) To examine and certify as to the competency of every employe in the Transportation Branch before such employe is allowed to work a Block, Lock and Block, Electric Train Staff, or Electric Train Tablet Instrument, or any other instrument or apparatus which is used for the purpose of train signalling, and to re-examine any employe who for a period of six (6) months has not had practical experience

in the working of Block, Lock and Block, Electric Train Staff, or Electric Train Tablet Instruments respectively, before such employe is allowed to again take charge of any such instrument.

- (2) To examine and satisfy himself as to the competency of every Signalman before such employe is allowed to take charge of a Signal-box, and of every employe who may be required to work the Train Staff and Ticket System.
- (3) To examine, as may be instructed, any employe for the position of Guard, in so far as safe working is concerned.
- (4) To see that every employe engaged in working any Block, Lock and Block, Electric Train Staff, or Electric Train Tablet Instrument, or any other instrument or apparatus which is used for the purpose of Train Signalling, maintains his knowledge of all necessary Rules, Regulations, and Instructions.
- (5) To examine every employe certified as competent to take charge of a Signal-box or of any Signalling instrument in his knowledge of the special safe working instructions (if any) in force at the place at which he works, and to obtain from him a written acknowledgement to that effect.
- (6) To visit each Signal-box as frequently as possible, by night as well as by day, and inspect thereat all Fixed Signals, Points, Scotch Blocks, Locking Bars, Plunger Locks, and all other appliances and instruments used in connection with the signalling and working of trains, and to enter in the Train Register Book the date and time of each visit, and initial such entry.
- (7) To arrange and be responsible for the efficiency of a weekly check of all Train Register Books, Train Staff tickets and any other printed or written matter used in connection with the signalling of trains; to personally inspect and re-check weekly as many of the Train Register Books as is reasonably practicable; and in the event of his detecting any irregularity which has not been indicated by the person or persons responsible for the proper checking of the Books to report such neglect at once to the Superintendent of Goods Train Service.
- (8) To report to the Superintendent of Goods Train Service, as hereinafter prescribed, every irregularity, and every breach of any Rule, Regulation or instruction which may come under notice in connection with the working or signalling of trains; and every irregularity on the part of any employe engaged in connection therewith.
- (9) To note the condition, order, cleanliness and efficiency of Points, Signals, Signal-boxes, Engine Head Signals and Tail Signals.
- (10) To report, when required, upon: -
 - (a) Train delays and the causes thereof, and
 - (b) Station yard working.
- (11) To see that every Station, Siding, Signal-box, &c., is suitably equipped with safe working appliances in accordance with the volume of traffic, and the importance of the train movements thereat.
- (12) To see, wherever interlocking is provided that the Points are provided with the necessary locking bars,

and that the Points and Signals properly interlock; and, at Lock and Block Stations, that the necessary Fixed Signals properly interlock with the signalling instruments, and, where Track Circuits are provided, that it is not possible for the Fixed Signals to exhibit improper indications.

- (13) To see that an intermediate cross-over road, from one Main Line to the other, is not allowed in a double line Block Section unless it is securely interlocked, controlled, or spiked and padlocked, and to see that the Signalman understands that the keys of the padlocks, when not in use, must be kept in his possession.
- (14) To bring under notice any instance in which an existing Signal can be improved either by removal to another site or otherwise.
- (15) To see, as far as possible, that Tablet, Staff, Annett, Plunger, and other Locks are kept in good working order, and in conjunction with Engineer of Signals and Interlocking, or his representative, to see that they are properly tested when installed and, if in good order, to sign a joint certificate to that effect.
- (16) To test all new Interlocking installations prior to their being brought into use, and in conjunction with the Engineer of Signals and Interlocking, or his representative, to see that the Fixed Signals are properly placed and interlocked.
- (17) To act similarly with regard to alterations or additions to existing interlocking frames, and in each instance sign, in conjunction with the Engineer of Signals and Interlocking, and if necessary the Electrical Officer, or their representatives, the usual certificate that the locking is correct, and that it and the other mechanical and electrical equipment are in proper working order.
- (18) To arrange, through the Station-master, the hours of duty of Signalmen, (other than Signalmen under the supervision of the Superintendent of Melbourne Yards), and through the Metropolitan or District Superintendent, as the case may be, the annual leave and passes of such Signalmen; and to arrange emergency leave for such employes when necessary, and see in every instance that a competent man is appointed to relieve.
- (19) To recommend the transfer, or promotion, of Signalmen when necessary, or when such a course seems desirable.
- (20) To see that each Signal-box is provided with an Order Book of foolscap size, and that all current orders concerning the safe working of the traffic, and operative at the particular place, are neatly and legibly recorded in such Book.
- (21) To carry out any other duties specified in this circular, or which may be imposed by the General Superintendent of Transportation from time to time.

FOG SIGNALLING

8. Except as shown below, the Block and Signal Inspectors, within their respective districts, will be responsible for seeing that suitable arrangements are made for the provision of the necessary Fog Signalmen and Groundmen, and shall examine and certify as to the competency of the men who are appointed to the various posts.

9. The Assistant Superintendent of Melbourne Yards shall examine Fog Signalmen and Groundmen appointed at places under the supervision of the Superintendent of Melbourne Yards; and at Stations on the Down side of Werribee, Sunshine (for the Bacchus Marsh line), Sunbury (for the Northern line), Broadmeadows, Ringwood,

Dandenong, and Frankston, the Station-masters shall personally examine and satisfy themselves that the Fog-signalmen understand their duties.

CORRESPONDENCE CONCERNING THE DUTIES OF SIGNALMEN

10. The Signalmen at any place at which a Station-master is located shall be directly under the orders of the Station-master, and every instruction or report passing between the Block and Signal Inspector and any Signalman concerning the duties of the latter shall be sent through the Station-master.

11. Every report to or from any Signalman at an intermediate Signal-box shall be forwarded through the Station-master at the station on whose pay-roll such Signalman is entered.

12. Correspondence from a Block and Signal Inspector, calling for a report in regard to any irregularity discovered either in the course of checking the Train Register Books or whilst travelling through the district, shall in the first instance be sent direct to the Station-master, or, in the case of Signalmen under the direct supervision of the Superintendent of Melbourne Yards, direct to the Signalman concerned. The report of the Signalman concerned shall in every instance be forwarded promptly to the Block and Signal Inspector, who, as soon as all inquiries have been completed, shall forward the correspondence, with any remarks which may be considered necessary, to the Metropolitan Superintendent, the District Superintendent, or the Superintendent of Melbourne Yards (as the case may be), who shall forward the correspondence, with his recommendation, to the Superintendent of Goods Train Service.

13. In the event of any serious irregularity, such as a breach of any Rule or Regulation, the Block and Signal Inspector, in addition to acting as above instructed, shall send a copy of his memo (or a special report when necessary) to the Superintendent of Goods Train Service.

14. Each Block and Signal Inspector shall arrange for such office records to be kept as will ensure the proper course of correspondence and its due return from stations and Signalboxes.

CHECKING OF TRAIN REGISTER BOOKS

15. Every person employed checking the Train Register Books shall have had at least six months' experience in the working of an interlocked Signal-box, and shall have passed the prescribed examinations for working Double and Single line Block, Lock and Block, Electric Train Staff, Electric Train Tablet, and Train Staff and Ticket System, and also Fog Signalling and Interlocking, and shall be familiar with the special instructions in force at the various stations and junctions.

16. The Block and Signal Inspector shall instruct every such employe in his duties, and, before he enters upon his duties, shall forward a certificate as to his competency to the Superintendent of Station Service.

17. In every instance in which any entry or entries in a Train Register Book or Books reveal any irregularity or breach of any Rule, Regulation, or other Instruction, the Checker must bring such irregularity, omission, or error under the notice of the Block and Signal Inspector without delay, and if the Inspector be absent from his head quarters, and the fault be a serious one, he shall communicate with him by wire or telephone, and in addition shall promptly advise the Superintendent of Goods Train Service.

SPECIAL NOTICE TO THE STAFF

18. Employes are prohibited from working any Block,

WHY THE CTC WAS LATE (THE HORSHAM-KYOSAN SAGA)

Andrew Waugh

The first goods on the NE Standard Gauge ran on the 2/3 January 1962 and passenger services commenced on 16 April. However, the new CTC system to work the standard gauge was not bought into use until the following year. The section Alumatta Loop to Wodonga Loop was brought under CTC control on 21 January 1963, Seymour Loop to Alumatta Loop on 4 February 1963, and the final section section, West Footscray to Seymour, on 4 March 1963. The reason for the late commissioning can be found in a report with the cumbersome title 'Report from the Committee of Public Accounts on Advances from the Decentralization Fund to the Horsham Kyosan Engineering Coy. Ltd. and on Tenders for the Signalling Contract for the Dynon-Wodonga Section of the Uniform Gauge Railway'. The following article is primarily based on that report, with additional information from 'The Story of Horsham (A Municipal Century)' by Brian Brooke and Alan French (City of Horsham, 1982).

May and Miller Foundry, Horsham

The May and Miller Foundry was founded in 1874 by Samuel May and James Miller. Both May and Miller were in their late twenties and had served as apprentices in Mt Barker, South Australia. In the 1870s the Wimmera was being opened up for wheat farming, largely by ex South Australians with their successful dry farming techniques. The foundry flourished with the production of farming equipment and even exported interstate to South Australia and New South Wales. In 1929 the foundry was reconstituted as 'May and Millar Limited' and management was removed to Melbourne. The company went into liquidation in 1944 due, it was said, to lack of interest by Melbourne shareholders. A local company, 'May and Millar (1944) Pty Ltd', took over with Horsham directors Frank Langlands, Louis Schwartz, and William Denholm. The new owners invested in the business, building a new foundry building in 1948 with much mechanical handling equipment. However, around this time the business was sold to a British company Qualcast Ltd.

Our story commences on the 31 January 1958 when the Australian subsidiary of Qualcast announced that they were closing the May and Miller Foundry (also known as the Horsham Foundry). Qualcast noted that the foundry had not made a profit since 1953 and the output of the foundry did not meet Qualcast standards or Villiers standard. Most of the equipment was obsolete and considerable investment would be necessary to return to the foundry to profitability.

Resurrection

The announcement of the closure caused considerable dismay in Horsham as the foundry was a significant local employer with 80 male employees. The local council weighed in and pressure was applied to the federal and state representatives. In the state government, at least, the locals found a sympathetic ear. On the 7 February, the State Minister for Decentralisation, A.J. Fraser, announced a £15,000 government loan to any local organisation or individuals to buy the foundry provided they provided matching funding. That this was a purely political use of the Decentralisation funds was subsequently admitted by the department who stated at the enquiry that the government's 'primary,

if not only' consideration was the maintenance of employment in Horsham, not the quality of product or profitability. Further, the Decentralization Division "[normally encouraged] only those industries which we feel can operate in the country on an economic basis..." No attempt by the department was made to inspect the foundry to determine its suitability for government contract work, although the department was aware that the product did not meet Villiers standard. Indeed the first time an officer of the department saw the foundry was when they accompanied the Minister to the formal reopening.

A number of enquiries were received by the department about the offer, but two Melbourne businessmen, Mr Leonard Warner and Cr Leslie J. Fox, eventually became the front runners. Fox and Warner held discussions in February between the Qualcast, the Ministry of State Development, the Horsham Shire Council, and W.J. Mibus, the local MLA. This resulted in the formation of a new company, the Horsham Foundry and Engineering Co Ltd, by Fox and Warner, townspeople of Horsham, and 'certain interested citizens in Melbourne'. The report does not detail the financial arrangements, but notes that capital was 'thought' to be £20,000. Local Horsham capital amounted to £6,000. Directors of the new company were Warner, Fox, Leslie Powell (a Horsham accountant), Taffy Morson (Horsham councillor and valuer), and Cliff Warrick (also a Horsham councillor and farmer).

During April, Fox and Warner had held discussions with the State Government on possible work for the foundry. Both Fox and Warner insisted that the company had little prospect unless it was assisted by the channelling of government contracts to them. The State Development Minister informed Fox that government would ask state instrumentalities to give work to foundry provided it could supply equal quality and on competitive basis. This was supported by the local member, W.J. Mibus, who told the Horsham Council secretary that Cabinet had agreed to giving the foundry work subject to competitive tendering (Mibus was Minister of Water Supply, and hence a member of the Cabinet). Warner and Fox, however, believed that they had a written assurance of government work for 12 months. On the strength of this belief they obtained a large overdraft from a bank.

On 12 May, the Treasurer of Victoria made an advance of £15,000 to Warner & Fox as Qualcast (UK) was pressing for payment. This was in the form of a loan to the company formed by Fox, and was secured by a first mortgage debenture over the whole undertaking. A condition of the loan was that government was represented on the Board. Leslie Powell was the government nominee.

The foundry was officially reopened on the 15 August 1958 by the Minister for State Development. A Senior Investigation Officer of the Decentralisation Division, who attended with the Minister, described the foundry at the time. The foundry itself was one of the newer sections. The general engineering shop had been stripped of all machinery. Another building had some machinery - some very old - but it was felt that the remaining stock had not been machined on this plant. Some machine tools forming part of the plant had been removed at some stage

The Kyosan Connection

In the late '50s, Japan was not the economic powerhouse it is today. Its industry, slowly being rebuilt after the war, was hungry for sales and very willing to do deals in their search for new markets. One man who realised the opportunities that this opened up was Cr. Fox. At some point Fox organised a relationship with the Kyosan Electrical Manufacturing Coy. Kyosan was an established railway signalling contractor which sold signalling equipment, primarily to the Japanese Railways. Fox intended that the Horsham Foundry manufacture signalling equipment to Kyosan designs.

The NE CTC Tender

On the 4 December 1958, the VR commissioners called for tenders for the signalling equipment to be installed on the standard gauge line between Dynon and Wodonga. The request for tender prescribed certain specifications for the design of circuits and required the manufacture, supply, delivery, construction, erection, and installation of Automatic Block Signalling between Dynon and Wodonga with Centralized Traffic Control using either Coded Track Circuits or Steady Energy Track Circuits. The request for tender allowed tenders to propose solutions not in accordance with the specification, enabling tenderers to propose innovative solutions and fulfilling the requirement in the Rail Standardisation Act that the work was to be done in the most 'economical' manner.

Four tenders were received when the tender period closed on 27 May 1959. These were:

(a) Siemens Schukert (Australasia) Pty Ltd on behalf of S. Halske A.G. of Germany with a quote of £729,835.

(b) Horsham Foundry and Engineering Co Ltd in association with Kyosan Electrical Manufacturing Co Ltd, Tokyo, with a quote of £887,157.

(c) McKenzie and Holland (Australia) Pty Ltd in conjunction with Westinghouse Brake and Signal Co Ltd, England with a quote of £905,811/19/2.

(d) Charles M. Terry Pty Ltd on behalf of Metropolitan Vickers and GRS, England, with a quote of £927,464.

The tender evaluation was performed by G.F. Woolley who was the Signal Engineer, North East Standardisation. The evaluation was completed on 20 July 1959 when his recommendation and report was sent to the Chief Civil Engineer, L.A. Reynolds. Woolley recommended acceptance of the McKenzie and Holland tender.

The tender from Siemens Schukert (S. Halske A.G.) was eliminated because it was for an alternative solution (and so was not to specification) that was unacceptable from both technical and operating aspects.

The tender from Charles M Terry (Metropolitan Vickers/GRS) was eliminated because it was the highest bid and did not offer any outstanding advantages. The offered system used the GRS polar-code system to transmit CTC information between the office and the field. Although this coding scheme could control more locations (crossing loops) per CTC segment than the remaining two proposals, it took the same length of time to transmit the codes and therefore had a limited operating capacity of four trains per segment.

The remaining two bids were difficult to separate. The tender from the Horsham Foundry (Kyosan) was the lowest cost (but only by 2%). The equipment tended was for a relay based time-code system similar to the Union Switch and Signal system already installed between East Malvern and Glen Waverley. There were, however, two major drawbacks. The first was that the equipment (including point machines, signal heads, etc) was new to the Victorian Railways

and would require the purchase of spare stock. The cost of these additional spares would mean that the total cost of the Horsham tender was greater than the McKenzie and Holland tender. The second was that the NE Standard Gauge was at the limit of capacity of the Kyosan system. Any additional controlled locations on the line would require major modifications at considerable cost. The report went on to state that 'Difficulty would arise should these additions be required during a period of national emergency.'

McKenzie and Holland had submitted an alternative tender based around their new transistorised CTC machine. The use of transistors instead of relays resulted in a significant speed up in the transmission of messages. With the relay system it took 4 seconds to transmit one code transmission. The relay system took just 2 seconds to scan an entire segment of 10 locations. In addition, almost all of the equipment proposed by McKenzie and Holland was already in use by the Victorian Railways and so no additional spare stock was required.

In summary, Woolley wrote,

Horsham Foundry and Engineering Co Ltd. offer is to specification, but uses material not interchangeable with existing standard material. The CTC system has limited operating capacity and has no spare physical capacity [...]

McKenzie and Hollands (Australia) Pty Ltd offer is to specification, uses standard material mainly made in Australia, and is a flexible high speed electronic CTC system having spare capacity.

Charles M. Terry Pty Ltd is to specification but as the highest tender has no outstanding advantages.

Political Games

The Horsham Foundry had obtained information about the likely outcome of the tender process before Woolley had even formally submitted his tender evaluation. It is clear from the following letter that Fox knew that McKenzie and Holland had proposed their electronic CTC machine by early July and, by early August knew that the evaluation was favoring that option. The letter is from Fox to Kyosan and was written on 9 August:

When the writer first heard of McKenzie Holland's alternative offer for supply of an electronic transistorised control system at a price appreciably lower than our Tender, I did not think the Victorian Railways would seriously consider such an untried type of CTC system, but over the last two weeks I have become alarmed at Mr Reynolds' interest in it, and after all, as Chief Civil Engineer, he has the final say in the submissions to Mr Brownbill, and then, the Minister [...] in this instance, I am afraid Mr Reynolds may recommend the Victorian Railways adopt the Electronic Transistorised system now, and if so, then McKenzie Holland is the lowest offer, unless we can also lodge an alternative offer for similar equipment.

Note that Fox's information was not quite correct as McKenzie and Holland's tender price was actually above Horsham Foundry's price, although this price difference may reflect the Railways view that the total cost (taking into account spares) of the McKenzie and Holland system would be lower than the Kyosan system.

Fox wrote to Commissioner Brownbill on 11 August on behalf of the Horsham Foundry asking how they could submit an alternative quotation for a transistorized system. He added that Kyosan felt that a transistorized CTC system should only have been quoted on after an explicit request

for such a system due to its experimental nature.

This letter was clearly passed to Woolley for comment, and Woolley responded in a memo the next day, "Regarding Mr Fox's letter, it must be pointed out that tenders for the North-East signalling closed on the 27th May and a quotation from his company for an entirely untried system of theirs at this late date is unacceptable."

On 17 August, Brownbill wrote in reply to Fox "[...] that as tenders for the north-east signalling scheme closed on 27th May last, and a decision is about to be reached, an alternative quotation from your Company at this juncture for an entirely Electronic Transistorized CTC System cannot be entertained, particularly as it is entirely experimental". On the same date, the Secretary of the Victorian Railways wrote to the Secretary of the Commonwealth Railways on 17 August 1959 recommending that McKenzie and Hollands tender be accepted (as the Standard Gauge was being funded by the Commonwealth, the Commonwealth Railways were responsible for the funding).

Also in August, the Kyosan company applied for and received 5000 £1 shares in the Horsham company, conditional on their appointing one director to the board and the name being changed to include the word "Kyosan". The company name was consequently changed to "Horsham Kyosan Engineering Co. Ltd." The Japanese money was matched by an additional £5000 Government load from the decentralisation fund.

In September Leonard Warner resigned from the board and on 14 September sold his shares. Warner did this under pressure from Mibus because of (to quote the report) "political repercussions arising from the fact that his brother held Ministerial Portfolio in a Department which would be concerned with the allocation of the contract for which the Horsham Kyosan Company had tendered." Sir Humphrey Appleby would have been proud of that sentence. Put more plainly, Mibus was worried about the political flak if the Minister of Railways, Arthur Warner, awarded the NE CTC contract to a company which his brother founded and had a large shareholding.

Fox wrote to Senator Wade on 25 September (and which the Senator passed on to Fraser, by this time the acting Minister for Railways). The letter stated in part:

We are mindful that in July, Mr Woolley informed us his technical recommendation had been based on the tender submitted by us and one other, and, that he had not distinguished between either. This is now the third occasion on which Kyosan have tendered for Victorian Railway work. We are well aware of the difficulties confronting our efforts to win tenders in a field in which there has been virtual monopoly in Victoria since 1912. If a misunderstanding has occurred in any technical aspect of our tender, then we would appreciate a gesture for steps to be taken to correct such a position which could seriously affect a technical recommendation."

The unfortunate Woolley was hauled over the coals by the Commissioners' for this lapse, though as he explained to the Public Accounts Committee...

"You see, because he [Fox] was continually calling at the office, hoping he would get something, I thought if I said, 'Well I am not making the final recommendation', he would stop coming. If you read my report, you will see I did not make a very precise recommendation, I stated the facts and left it for the Chief Civil Engineer or the Commission to make the final decision."

The reference to '1912' clearly shows that Fox was aware the other company was McKenzie and Holland. Ironically, Fox got it wrong. Prior to 1912 McKenzie and Holland did have a monopoly for the supply of signalling equipment to the Victorian Railways. After 1912, the Railways manufactured most signalling equipment itself, and only purchased specialised equipment by contract. McKenzie and Holland had a lean time of it in Victoria, competing against US and UK firms, until they began local manufacture of power signalling equipment.

In another part of Fox's letter, he claimed that Mr Suzuki, a Japanese signalling engineer, had not been informed when he was in Melbourne that an electronic CTC machine would be considered, and this was why no tender had been lodged along these lines (of course, McKenzie and Holland had not been told that an electronic CTC machine would be considered either). Finally, Fox claimed that the contract was vital to the decentralised industry in Horsham and that 65% of the contract price would be spent in Victoria. The Public Accounts Committee wryly noted in the next paragraph of their report that 80% of the McKenzie and Holland bid would be spent in Victoria, and that of the Victorian component of the Horsham Kyosan bid, less than 10% would actually be spent in Horsham. The balance of the contract would be sublet to a Melbourne electrical firm.

Brownbill responded to his Minister on 2 October. Whilst he noted that Horsham Kyosan had been careful to respond to the specification in the tender, they had not taken advantage of Clause 4 which allowed alternative tenders to be submitted. He repeated that the Kyosan system was limited in capacity, and the apparent price difference was illusory because of the requirement for additional spares and an additional maintenance section would need to be incorporated in the department's organisation. The memo concluded:

Summarized, the position is that the Horsham Kyosan tenderer offered-

- (a) Non-standard signalling apparatus;
- (b) A CTC system without reserve capacity for extensions;
- (c) An Australian content of 65 per cent; whilst the recommended tenderer offered -
 - (a) Standard signalling apparatus;
 - (b) A CTC system having unlimited capacity for extensions;
 - (c) An Australian content of 80 per cent.

The suggestion that the former tenderer should now be permitted to submit an alternative tender embracing an electronic transistorized CTC system is considered unethical, and we have no hesitation in reaffirming the recommendation already made.

The gloves were starting to come off!

On the 30 September, the Japanese Consul in Melbourne wrote to the Premier extending an all expenses paid trip for a Victorian Railways engineer to inspect the signalling system of the Japanese Railways. The government replied that it would be happy to accept, but not at the moment as the trip could create the wrong impression.

The Victorian Railways had forwarded their recommendation to the Commonwealth in late August. On 9 October, the responsible Commonwealth Minister, Shane Paltridge, met Fraser at Essendon airport and discussed the contract. Five days later, Paltridge wrote to Fraser:

You advised me that the Victorian Railways Commissioners, on reconsidering the tenders submitted, were satisfied that the equipment to be supplied by

this firm (e.g., the Horsham Foundry and Engineering Company Ltd.) would meet all present and anticipated requirements, and they recommended its acceptance.

As I explained to you, Clause II of the [NE Standard Gauge] Agreement provides that no party to the Agreement shall incur any expenditure under the Agreement until I give the party authority to incur that expenditure. Although I have, in practice, awaited the calling of tenders before giving my authority as required by the Agreement, I am not required to approve of any particular tender. Having satisfied myself that expenditure on any particular part of the standardisation work, up to a stated amount, is necessary in the terms of the Agreement, and having given my consent as required by Clause II., the responsibility for selecting the tender considered appropriate then rests with the Victorian authorities.

As I understand the position, the Victorian Cabinet will be considering the recommendation of the Victorian Railways Commissioners in regard to this particular contract and I await your further advice.

This is an entertaining letter. Since the Victorian Railways had not reconsidered the tenders, did not believe that the Kyosan system would meet all anticipated requirements, and were not recommending acceptance of the Horsham Kyosan tender it is clear that Fraser, at the very least, was very confused about matters. Paltridge, who must have been aware of the political ramifications, then refused to take responsibility for the decision in the second paragraph. Paltridge took the view that, having authorised the purchase of a CTC system, it was up to the State government to actually award the tender. The sting was in the final paragraph where Paltridge reminds the State that the only defensible decision would be one based on the recommendations of its technical experts.

Three days later, Brownbill sent a memo to Fraser in which he informed Fraser that he was unable to understand how Senator Paltridge came to be under the misapprehension contained in the letter, and again stated that the Commissioners believed that the contract should be awarded to McKenzie and Holland.

The minister responded on 19 October and instructed the Commissioner not to take any action to enter into the contract until the Government considered its position. More communication must have then taken place, formally or informally, with Horsham Kyosan for, in a letter dated 25 October, Fox stated that Kyosan would increase the capacity of their CTC system at no extra cost should this prove necessary.

Premier Bolte then called Brownbill in on 27 October for a meeting about the contract. Brownbill stated to the Public Accounts Committee that he was "as adamant as a servant can be, that the job must be re-advertised." Despite this, the Premier wrote to Paltridge the following day:

This is to let you know that the Hon A.J. Fraser who will be interviewing you this evening is fully acquainted with my Government's view on the matter to be discussed and he has our fullest confidence and authority to act on my behalf.

I think I might add that I have discussed with the Chairman of the Victorian Railways, Mr Brownbill, the matter of tenders for the supplying of signalling equipment on the uniform gauge line between Wodonga and Melbourne, and I am advised by Mr Brownbill that the tender of Horsham Kyosan Co.

complies in every way with the advertised specification of the tender. It is suggested, however, that the tender of McKenzie Holland provides for the operation of a higher number of trains than that provided in the tender of Horsham Kyosan Co. This, however, is disputed by the Horsham Kyosan Co. who have indicated that should it be held that their tender does not cover the same frequency of operation to that provided by McKenzie Holland, then they are prepared to install equipment sufficient to do this at no extra cost. The Railways Commissioners stress the view that the tenders should be re-advertised.

In view of all the circumstances as we now understand them my Government is firmly of the opinion that the lowest tender, i.e., the tender of Horsham Kyosan Co should be accepted and your concurrence to this action is now sought.

However, Senator Paltridge was too wily to fall for this attempt to make him responsible for the decision and responded to the Premier the following day:

The parties to the [NE Standard Gauge] Agreement are the Commonwealth and the States of Victoria and New South Wales. In terms of the Agreement, therefore, I am required to authorize the Victorian Government - not the Victorian Railways - to incur expenditure on any particular work. My approval having been given, it is then a matter for your Government to determine which tender you will accept and in doing so you will presumably be guided by the advice of the Victorian Railways Commissioners. The decision, however, is a matter for your Government.

The position therefore is that I will require a recommendation from your Government before authorizing expenditure on this and, indeed, on any other work to be performed in terms of this agreement.

About this time Fox decided on a trip to Japan; possibly to gain approval for his promise to supply an equivalent system to that proposed by McKenzie and Holland for the tendered price. From Sydney he telephoned Senator Wade and pointed out that he had no written evidence that Horsham Kyosan was still being considered for the contract. He also informed Wade that he was confident he could raise the capital in Japan for a spun pipe project (for Horsham), but this was contingent on gaining the signalling contract. After conferring with Fraser, Wade sent a telegram to Fox on the 29 October care Qantas Airport, Darwin: "Transport Minister Fraser has authorized you to inform Japanese partners he is positively confident your tender will be accepted Stop Formalities prevent public announcement few days Regards". On 5 November, Wade sent a second telegram to Fox care of Signalkyosan, Tokyo: "Re your tel 2nd position as stated my telegram Darwing 29th Stop Conferred Fraser yesterday Minister authorises you proceed negotiations complete confidence". Although the words in the telegram were Wade's, the Public Accounts Committee was satisfied that they accurately reflected Fraser's, and the Government's, attitude.

Brownbill seeing the direction the wind was setting, contacted McKenzie and Holland to see if they would sub contract to Horsham Kyosan. Mr J Campebell Dickens (a director of McKenzie and Holland) gave in evidence that on the 11 November

The Commissioner of Railways himself rang through to one of my staff to ask whether we would be prepared to give consideration to shedding some of the work in a country district such as Horsham. My an-

swer was 'No'. I said, 'If that was a condition which would have any influence on this tender, it should have been specified in the conditions of contract'. The Commissioner explained at the time that a decision to shed some work in that district may, but would not necessarily, influence a decision on this contract and I suggested that there were certain deductions one could make from that. But we were advised the next day by phone not to bother with that, as Cabinet was going to recal the tenders.

In fact, the dates given here were clearly slightly wrong as the Premier wrote to Brownbill on 13 November stating that cabinet had considered the two tenders and the letter from Fox stating that the Kyosan system would meet all the advantages claimed for the McKenzie and Holland system, but at a lower cost. The Premier asked Brownbill to report upon the specific claims. Brownbill produced a report on 17 November which concluded

The whole issue revolves, in the final analysis, around the question of whether we are to take cognizance of what Horsham Kyosan can offer or what they actually did offer.

If the former is to be the case, we have no hesitation in affirming that fresh tenders should be invited.

If it is to be the latter, we have no hesitation in reaffirming our recommendation that the tender of McKenzie and Holland be accepted.

On the same day, Wade sent a telegram to Fraser "Fox pressing official decision railway contract. Have I your authority cable thus Minister confirms his confidence your company will be successful continue negotiations confidence Stop Announcement few days". No reply was sent. Fox then sent a telegram to Mibus in Horsham on 22 November "Tremendous future Horsham Kyosan Sumimoto positively based success Dynon Stop Disastrous otherwise advise Senator Wade finality Dynon Wodonga now urgent".

This telegram apparently inspired a deputation to the Premier on 24 November. The deputation consisted of the Mayor of Horsham, the Town Clerk, Senator Wade, and a director of Horsham Kyosan. The reason for the government's sudden silence came out. As the Public Accounts Committee put it:

A summary of the discussion on the file of the Horsham City Council indicates that the Premier had, on the advice of his Attorney-General (the Honorable A.G. Rylah) and the Solicitor-General (Sir Henry Winneke), decided to call for new tenders for the Dynon - Wodonga signalling contract. The Premier's legal advisers believed that the Government was no longer in a position to accept either tender, and that re-advertising was essential. Even at this late stage the deputation pressed the Premier to reconsider the matter and allocate the tender to Horsham Kyosan as theirs was the lowest tender and there were circumstances that "could be justifiably construed to make the Horsham Kyosan (tender) a genuine tender". The advice of the Solicitor-General was to the effect that the Horsham Kyosan offer for the supply of transistor equipment was in the form of a quotation and not a tender.

Fox, a long way from the action, was reduced to impotently sending telegrams. On 25 November, the Horsham foundry received "Advise Hon Mibus Wade Councillor Nilsen that Sumitomo Metals agreed supply 1/4 pipe capitals and influence Kubota others additional but all hinges

Dynon Sop Advise position c/o Signalkyosan". No reply was ever sent.

The end for Horsham Kyosan

The management of Horsham Foundry had continually pressured the government for work. One such example was quoted by the Committee:

[Cr Fox] did on one occasion seek Ministerial direction in the allocation of a tender in respect of work to be performed for the State Electricity Commission. In a letter dated 10th November, 1958, addressed to the Officer in Charge of the Decentralization Division, he said: "The S.E.C., unlike the M.& M.T.B and the M. & M.B.W., are a comparatively small Board and it is hoped they can be persuaded to give us all of the work. However, unless Ministerial direction comes into the matter, this tender will surely be spread, and the distinct possibility always exists that the bulk will go to other foundries who have been supplying the S.E.C. for years, even if their prices might be slightly higher than Horsham..." Your Committee record that Mr. A.G. Coulthard wrote to Cr. Fox on the 12th November, 1958, informing him that it would be most improper for his Division to do anything in line with the representation that Cr. Fox desired made in connection with this contract.

As early as November 1958, Warner recommended to the shareholders that they close the foundry as it has lost approximately £3,500 in the first three months of operation. However, as this letter was also sent to the local members of parliament, it could also represent an effort to pressure the government. Certainly the foundry did not close at this time.

The foundry finally won a large government contract in October 1959. The contract was for the 12 months supply of brakeshoes to the MMTB and was won on price. Unfortunately, the price tendered was below the cost of production, and this was made worse by poor quality standards. In January 1960 50% of the brakeshoes cast were simply condemned on the spot, and of those that were delivered, the MMTB rejected a considerable number. The quality subsequently improved after the foundry paid for an expert from the MMTB to advise them. However, an analysis at the end of February 1960 revealed that the company lost £31/19/3 on each ton of brakeshoes produced.

By December 1959 the Decentralization Division was experiencing considerable difficulty in obtaining a clear statement of the financial position of the company. The Investigating Officer of the Division, A.A. Gerbert, visited Horsham in that month, but was unable to inspect the books. A return visit the following month with a Treasury Officer resulted in farce. When the two public servants arrived in Horsham on 6 January they found that Cr Fox had preceded them on the night train, that the Office Manager was absent on holidays, and that they would be unable to access most of the books as they were locked in the safe and the Office Manager had the key.

Despite all this, the government advance a further £2,500 on 30 December and £5,000 on 3 February 1960, basically to keep the company afloat. The government also appointed a director to the company to look after its interests on 3 February. This director reported in mid March that the net loss for the 4 week period ending 28 February was £5,373 (more than the amount loaned to the company at the beginning of the month), and the accumulated loss was £32,211. At the same date, the current and fixed assets of the company was £57,465 while the current liabilities were £66,398. Of the li-

abilities, £27,500 represented the loans from the Decentralization fund which left £39,898 to represent the shareholders funds, bank overdraft, and trade debtors. If the company was not broke at this point it was very close to it. The company was consequently sold to K. Rees Empori-ums Ltd on 27 April 1960

Conclusion

It is clear that the Victorian Railways had a lucky escape. From a technical perspective there is no doubt that the electronic CTC system was far superior to its relay based equivalent. Although the first cost was slightly higher than the relay system, it could transmit information far faster. One side effect of this was a greater addressing range which meant that the machine could control more locations.

Ignoring the technical aspect, it is equally clear that the decision was also the correct one when the companies were considered. The quality of the local McKenzie and Holland work was known to be high. The quality of the Horsham Foundry - under its new management - was unknown when the tender was let but the experience of the MMTB showed that the Horsham Foundry was not capable of high quality work. Worse, their costs were based on what they thought would win the contract, not the actual production costs. Loss leading in this way is a well established and widely used technique to establish a reputation. Without it, no company could ever break into a new field. But it requires sufficient financial capital to deliver a quality product while making a loss on initial production. This is often particularly tricky as the costs during initial production are often high as problems occur and are solved. Without sufficient capital a contract can turn into a nightmare for all concerned as the manufacturer tries to cut corners to stay afloat, while the purchaser applies pressure to fulfil the contract. In extreme cases, the purchaser can be forced into the painful situation of having to choose between accepting a poor product, or forcing the company to the wall and being left with an incomplete product and no support. It is clear that the Horsham Kyosan

Foundry did not have sufficient financial backing to support such a large contract in a new area for it.

The government clearly would have preferred Horsham Kyosan to win the contract. It awarded the initial loan fundamentally to retain the industry in Horsham. This was purely a political decision, and no-one apparently developed any form of business plan showing how the foundry could return to profitability. The plan of management was apparently to depend on government contracts - won by political pressure if not by price. By late 1959 the foundry must have been in serious trouble and pressure on management was immense. So, too, must have been the pressure on the Government. Having given the company from closure for political reasons in 1958, the foundry was going broke 12 months later. Closure would, no doubt, have been politically embarrassing. The CTC contract must have appeared to be a saviour to all concerned. It would have certainly helped that the minister who originally approved the loan was, by that time, in charge of the railways.

Against this pressure Commissioner Brownbill stood firm, backing the technical judgement of his staff. The government blinked first. It was not prepared to accept the responsibility of reversing the technical decision of its experts. Bolte - no fool - must have been aware of the weakness of the Horsham foundry and would have realised the high probability of an embarrassing failure a year or so down the track. If Brownbill had capitulated and changed the recommendation, he would have been the scapegoat if things went wrong. By standing firm and forcing the government to make a political decision, the government would have to take responsibility for any financial or technical failures.

Fresh tenders were called for the North Eastern CTC. It is not known whether Horsham Kyosan tendered a second time, but the point became moot when the company was sold in April 1960. In June 1960 the contract for the NE CTC was awarded to McKenzie and Holland, a year after it should have been. The end result was that trains were worked on the new Standard Gauge by Electric Staff for a year before power signalling was provided.

SIGNALLING WEB PAGES

It has been suggested to the editor that members may be interested in Web pages on signalling.

The editor can do no better than recommend John Hinson's excellent site 'The Signal Box' (<http://trainweb.com/signalbox/>). Apart from some excellent content, John's site has an exhaustive list of links to sites all around the world. Readers with an interest in British signalling should also subscribe to the listserver on John's site and partake of the very interesting discussions.

However, it would be remiss not to mention two specific Australian signalling Web sites.

Chris Gordan has an excellent Web page on Victorian signalboxes (<http://www.ecr.mu.oz.au/~cmgord/trains/signalling>) and Chris French has a similarly excellent site on West Australian signalboxes (<http://www.starwon.com.au/~cfrench/Signals/Sigwa.htm>).

LADBROKE GROVE ACCIDENT

At 0811 on 5 October 1999, a Great Western HST collided with a Thames Train 3 car DMU at Ladbroke Grove Junction 2 miles west of Paddington station. The following brief note is primarily based on the first HSE interim report issued three days later and is published because of the exceedingly poor media reporting of the accident.

The approaches to Paddington have recently been extensively rebuilt to provide additional capacity as part of the new line to Heathrow airport. Between Paddington and Ladbroke Grove Junction there are six bi-directional running lines numbered 1 to 6. Beyond Ladbroke Grove Junction there are four running lines: an Up and Down Main line and an Up and Down Relief line. At Ladbroke Grove Junction there are connections between the various lines.

The signalling at Paddington, including Ladbroke Grove Junction, is controlled by an SSI located at Slough Control Centre. The signalling system includes a computer driven Automatic Route Setting (ARS) facility. The ARS will automatically set routes via the SSI in accordance with the timetable. The ARS was signalling both trains involved in the accident.

The Great Western HST was running the 0603 Cheltenham to Paddington service (Train 1A09) and had been routed along the Up Main line. It was signalled straight through Ladbroke Grove Junction to Line 2.

The Thames Train DMU was running the 0806 Paddington to Bedwyn service (Train 1K20). From Paddington, the DMU had travelled on Line 4. Although the report does not say so, it appears that the DMU was to be crossed across to the Down Main to continue its journey. The ARS had set the route from Line 4 to Line 3 up to signal SN 109. The route beyond, over the two crossovers, could not be set as the Great Western HST was signalled along the Up Main.

Unfortunately, the Thames Train passed SN 109 at Stop and proceeded to foul the Up Main near signal SN 120 where the collision occurred. The distance between SN 109 and SN 120 is around 700 metres, so this was not a simple case of

misjudged braking. The Signaller at Slough had been observing the passage of the trains on the VDU and realised that the DMU had passed signal SN 109 and immediately restored SN 120 to stop. However, there was no time for the approaching HST to brake.

As at 8 October there were 30 confirmed dead (with many more people unaccounted for) and 160 injured, some critically. Most injuries occurred because of a rapid outbreak of fire in some of the HST carriages. This fire was fed by fuel from the tanks of the HST and DMU.

Analysis of the SSI logs at Slough Signalling Centre shows that the route was set for the HST, that a route was set for the DMU up to signal SN109, signal SN109 was showing Stop, and that no other signals on the gantry with SN109 were showing any other aspect than red.

The HSE emphasise that the reasons why the DMU passed the danger signal are likely to be complex and any failure on the part of the Driver will only be one factor.

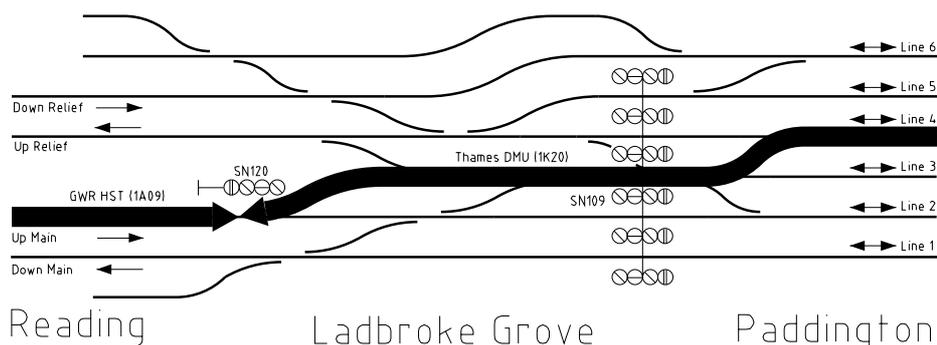
In particular, some questions have been raised about the siting of signal SN109. A number of previous incidents had occurred of trains passing this signal at danger, including an overrun of 700 metres. The signal had been altered, but viewing is difficult due to a bridge on the approach. To lower the signal as much as possible, it is of non-standard construction with the red light placed alongside the other three lights instead of underneath the arm.

Other questions address the training of the driver of the DMU, and the layout of the points at Ladbroke Grove, in particular the lack of flank protection that routed an overrunning Down train onto the Up Main rather than the Down Relief.

A major political issue is the lack of Automatic Train Protection.

An investigation will also be made of the fire that turned a serious accident into a tragedy.

The interim report can be found on the Web at <http://www.open.gov.uk/hse/railway/paddrail/interim.htm>





Even the 6'3" interlocking fitter had nothing to complain about the head-room under South Geelong. As can be seen above, the rocker frame is located in an enormous concrete vault. It is also by far the cleanest locking room (and frame) the editor has seen. The lower photo shows the conditional locking associated with lever 18, the never commissioned switchout lever. Given the confusion of rods (all of which had to be specially designed), it is little wonder that the VR preferred tappet frames where much conditional locking was to be provided. At right is the Waurn Ponds Master Key and the South Geelong Annett Key.

