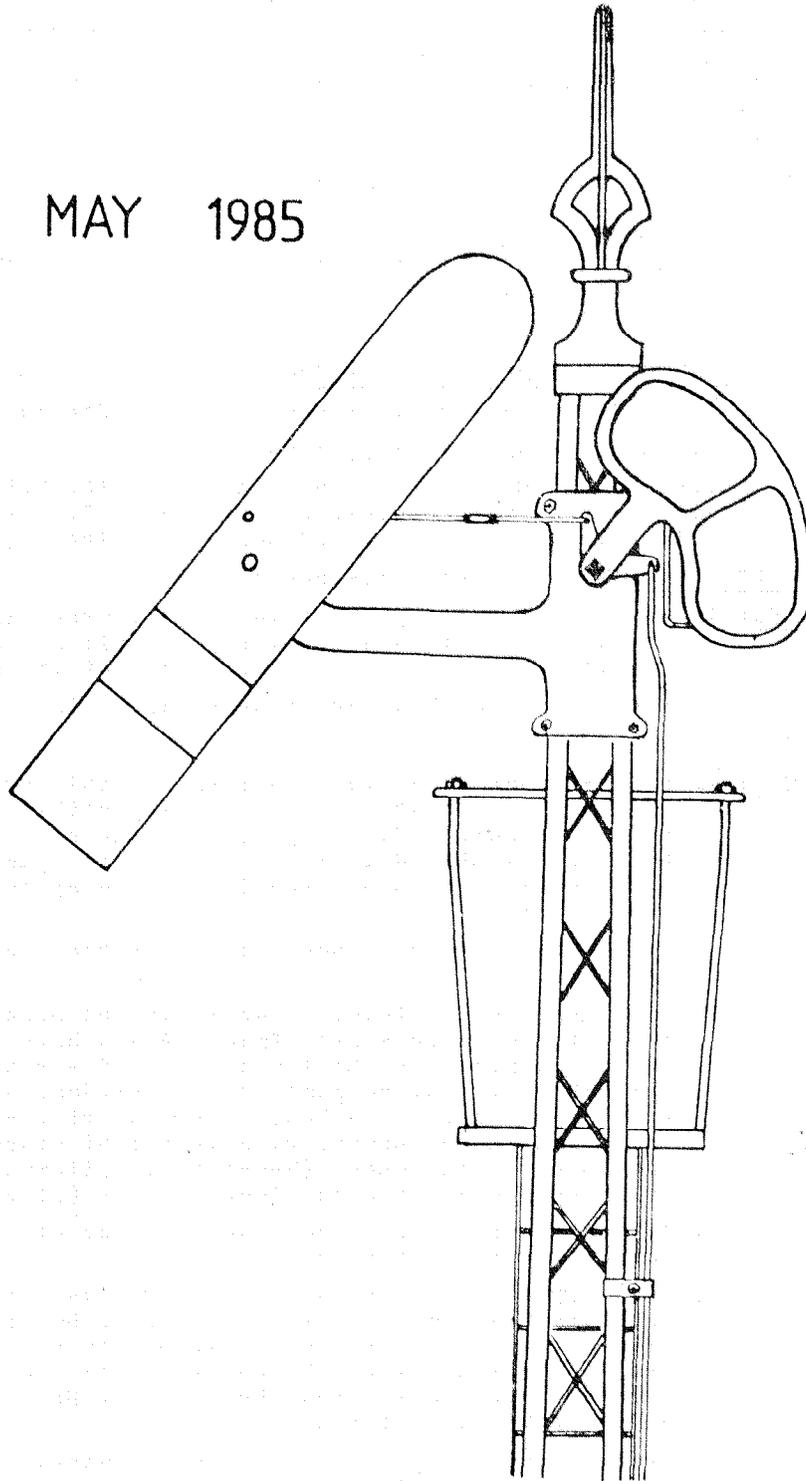


SOMERSAULT

MAY 1985



SRSV

Editor: David Langley, Crichton Street, Avenel, 3664.
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 Victorian Group Treasurer and Subscription Manager:
 Rob Weiss, 40 Shady Grove, Nunawading, 3131.
 Phone: 03-8781305.

New South Wales Group Leader: Neil Curryer,

NEXT MEETING: Friday, 17 May 1985.

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

Deadline for July 1985 issue is 23 June 1985.

MINUTES OF MARCH 1985 MEETING

HELD AT:

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

COMMENCED:

at 2050, Friday March 15 1985

PRESENT:

J. McLean, S. McLean, J. Brough, A. Jungwirth, W. Brook, J. Sinnatt
 A. Wheatland, M. McCormack, J. Churchward, T. Deveney, M. Bau,
 R. Jeffries, J. McCallum, B. Wooding, R. Weiss. C. Rutledge.

MINUTES OF PREVIOUS MEETING: adopted (Churchward/Weiss)

BUSINESS ARISING: 1. List of signalling items to be preserved. If the Railway
 museum shifts to new premises, we will suggest that
 signalling equipment be established at the new site.

2. South End visit. A few members called in.

CORRESPONDENCE:

Nil.

GENERAL BUSINESS:

1. LIC Safeworking system. Speakers on this subject are
 proving hard to obtain, but it is possible we may be
 able to screen a film. Apparently the system on the
 British Columbia Railway is not working particularly well,
 as it depends on a high-quality radio system (which BCR
 hasn't got).

Rob Weiss described some details of the system for the
 meeting.

2. 10th Anniversary Tour. A. Jungwirth and D. Langley have
 met with representatives from NSW and have established
 the basic plan for the tour: Fri. 2/8 - Mon. 5/8 with
 the NSW party taking part on Fri. Sat. Sun. and the
 Victorians on Sat. Sun. Mon. Locations visited extend
 from Benalla to Harden, with overnight stops at Albury,
 Cootamundra and Junee. (Short-term options available).
 If 16 people go, the bus fare will be \$20 each.

3. An additional black square needs to be placed in the
 bottom row of Crossword No. 8.

4. ARHS signalling film (shown at Model Railway Exhibition).
 J. McLean had agreed to vet this film, but asked that his
 name not appear in the credits. In the event, he was
 away on holidays when the checking was done, so Jim Brough
 did the job, stating that he was no J. McLean. The credits
 showed J. McLean after all.

ENTERTAINMENT:

Rob Weiss demonstrated the computer simulation game
 "Dispatcher", where the operator has to shift from 8 to 12
 trains (according to the chosen level of difficulty) along
 a section of railway with crossing loops and a section of
 double line. Having played the game a fair bit, he was able
 to illustrate some of the techniques which increase the
 operator's efficiency. Other members then had a chance to
 try their skill.

CLOSED:

at 2207.

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SPECIAL REPORT PRICES & TERMS TO MERCHANTS, CONTRACTORS & SHIPPERS FOR COLONIAL & FOREIGN RAILWAYS (PAGE 70 B.)

SRS (Vic) - Members 30/3/85

	NAME	RES ADDRESS	PHONE	CAT
BAMFORD	NOEL	44 ARGYLE RD, KEW 3101	03-80-1324	VIC+UK
BARKER	P.		-	VIC
BARNES	MICHAEL	1 KAREN COURT, WANTIRNA 3152	03-729-7916	VIC+UK
BARRY	PETER	19 DATEN ST YARRAWONGA 3730	057-441280?	VIC+UK
BATES	BILL	433 ELGAR RD, BOX HILL 3128	03-88-3162	VIC
BAU	MARK	5 EDMANSON AVE ELSTERWICK	03-528-3424	VIC
BROOK	WILFRID	24 KIAH ST, GLEN WAVERLEY 3150	03-232-3875	VIC+UK
BROUGH	JIM	158 BALWYN RD, BALWYN 3103	03-857-9106	VIC+UK
CARGEEG	GEOFF		03-584-2485	VIC
CHURCHWARD	JON	6 ALTONA CT, DONCASTER EAST 3109	03-848-8159	VIC
CLEAK	GRAHAM	55 MCCULLOCH ST, NUMAWADING 3131	03-874-2738	VIC
COHN	ALAN	21 BEWDLEY ST, ORMOND 3204	03-578-6647	VIC
COLEMAN	BRIAN	305 DORSET RD BORDONIA	3155 03-762-5196	VIC
CROPLEY	ROSS	27 ROSEBANK AVENUE, NORTH RINGWOOD	3134 03-870-2307	VIC
CROSBY	ROBERT	22 KROWERA ST, MOORDOOLBARK 3138	03-726-6541	VIC
CUMMING	GLENN	58 NICHOLSON ST WARRNAMBOOL 3280	-	VIC
DE POMEROY	NORM	20 KENT ST, BRAYBROOK 3019	03-311-5867	VIC
DEVENEY	TOM	4 ARTHUR ST, COBURG	03-354-7083	VIC+UK
DOUBLEDAY	WARREN	9/22 CHESTNUT ST CARNEGIE 3163	03-569-5675	VIC
DREW	MICHAEL	5 CHAPPEL DVE, WANTIRNA 3152	03-222-1383	VIC+UK
GOODING	PETER	4 ACACIA RD, UPPER FERNTREE GULLY	3156 -	VIC
GOSTLING	A.	33 LEDNARD AVE., NOBLE PARK 3174	03-547-0316	VIC+UK
GREGORY	DARYL	5 GOODWIN CRT. WANGARATTA 3677	057-21-5883	VIC
GUINEY	NICK	5 CAMERON RD, CROYDON 3136	61001X2381	VIC+UK
GUY	CHRIS	5 TAHLEE PLACE MONTMORENCY 3094	03-439-1698	VIC
HALLINAN	DANIEL	2/8 NAIRN ST, ASHBURTON 3147	03-25-5257	VIC+UK
HARVEY	DAVE	33 MITCHELL ST BENTLEIGH 3204	03-557-6317	VIC
HOSKING	JOHN	16 BRAMLEY CRESCENT GLEN WAVERLEY	3150 03-560-1981	VIC+UK
HOWKER	TONY		03-397-1033	VIC+UK
INGLIS	GRAEME	34 GRANDVIEW RD, BOX HILL SOUTH	3128 03-288-2936	VIC
JEFFERTIES	ROGER	18 DERBY ST, CAMBERWELL 3124	03-825516	VIC+UK
JENNINGS	REECE	58 MOORINGE AVE N PLYMPTON SA 5037	08-297-2399	VIC
JOHNSTON	GREG	7 GOULD CRES, ROSETTA, TAS, 7010	-	VIC
JUNGWIRTH	ALAN	29 CLEMENTS ST, EAST BENTLEIGH	3165 03-579-0067	VIC
KENT	ROD	4 ELLEN CT, BURWOOD 3125	03-288-4910	VIC
KOCIUBA	TOMY	7 VALEWOOD DRIVE KEALBA 3021	03-338-2469	VIC+UK
LANGLEY	DAVID	"WAHRDONGA", CRICHTON ST, AVENEL	3664 057-96-2337	VIC+UK
LESTER	LESLIE	2 WALTER ST, NOBLE PARK 3174	03-546-4818	VIC+UK
MARTIN	DON		067-72-1638	VIC
MCCALLUM	JOHN	93 GOWRIE ST, GLENROY 3046	03-306-6412	VIC
MCCORMACK	MICHAEL J.	MAHARS RD. LEIGH CREEK	052-34-7774	VIC+UK
MCCURRY	BRUCE	4 MARK ST, KEILOR EAST 3033	03-336-2574	VIC+UK
MCKENNA	ALAN	4 KIRSTAN CLOSE, OAKLEIGH SOUTH	3167 03-570-2863	VIC+UK*
MCLEAN	JACK	60 KENMARE ST, BOX HILL NORTH	3129 03-890-6764	VIC+UK
MCLEAN.	STEPHEN	22 PROGRESS ST, SEYMOUR 3660	057-92-1161	VIC+UK
MCLENNAN	TIM	16/14 CORRIE CRES KINGSTON 2604	062-95-1943	VIC
MERCER	BILL	117 COLE ST, ELSTERWICK 3185	03-596-1518	VIC
MICHAELSON	TAM	163 ANDERSON ST FAWKNER	3060 03-359-2204	VIC+UK
MILLER	PHILLIP	7 MAUREEN CRES. NOBLE PARK	3174 03-546-3853	VIC+UK
O'FLYNN	GREG	6 LAURIE CT, WARRNAMBOOL 3280	055-62-6704	VIC
PENN	TREVOR	53 GOLF LINKS AVE, OAKLEIGH	3166 03-579-2831	VIC
PFEIFFER	JOHN	31 NYUNA DVE, ST ALBANS 3021	03-367-2626	VIC+UK
PONTON	ADRIAN	14 DINAR COURT, DINGLEY 3172	03-551-6796	VIC+UK
RATCLIFFE	ALEX	2 CARMEL AVE, FERNTREE GULLY	3156 03-758-4754	VIC
REED	NOEL	30 MITTABAH RD HORNSBY	2077 02-477-4579	VIC
REYNOLDS	GRAEME	22 HOWITT ST, BALLARAT 3350	053-32-7721	VIC+UK
RUTLEDGE	COLIN	39 OAK AVE, DOVETON 3177	03-792-2602	VIC+UK
SAVAGE	LAURIE	PO BOX 73, NORTHLAND CENTRE	3072 03-470-5351	VIC
SINMATT	JOHN	13/9 WESTBANK TERRACE, RICHMOND	3121 03-428-4209	VIC+UK
SLADE	JOHN	1/2 BURHAM CLOSE NORTH RYDE 2113	02-888-3040	VIC
SMITH	ROD	37 SUNBURY CRES, SURREY HILLS	3127 03-836-4982	VIC+UK
STONEHAM	PETER	24 KEETS CRT, SPRINGVALE	3171 03-547-7721	VIC
TAAFFE	BOB	11 DERIBONG PL. THORNLEIGH NSW	2120 02-848-9994	VIC

TRAIN ORDER WORKING (Qld & SAR practice)

by G. Ferguson

In this article I will endeavour to show the differences in train order working in Queensland and ANR Central Region (former South Australian Railways) to those of the ANR Northern Division (formerly Commonwealth Railways) as explained in part 1 of this series. Already the basic rules have been set out in part 1 and part 2 will explain situations where they differ.

Queensland Railways

Train order working is used on the Townsville to Greenvale nickel line, in the Roma district and was formerly used on the Goonyella line.

Differences in the basic rules are that only one train is allowed into a section at a time except to clear a disabled train or when an accident or derailment occurs.

Differences in the issue of train orders is:

- * Train orders are numbered consecutively from 0001 hours Monday.
- * They must specify what type of motive power whether Diesel Electric Locomotive (shown as D.E.L.), or Diesel Hydraulic Locomotive (shown as D.H.L.) or Railmotor (shown as R.M.) (Fig 1 & 2).
- * They must show the number and direction, i.e. up or down, of the train such as No 2 Up. (Fig 1 & 2).
- * The guard at unattended stations is the only one who receives train orders, then gives a copy to the driver (except in the case of a light engine where the observer does the work of the guard).
- * a) after a train order which includes a crossing has been repeated back and the train controller has acknowledged the correctness of the repetition the person receiving the train order shall seek advice from the train controller as to the whereabouts of the opposing train and whether that train has already been issued with a train order for the intended crossing. If such is the case, the train controller shall then be requested to make a check on the place where the crossing is to be affected by repeating particulars of the train order issued to the opposing train. When this has been done, the train controller is to endorse on his copy of the train order the time and the name of the employee to whom it has been repeated.
- b) When a train order which does not show a crossing is received, the qualified officer receiving the train order shall check with the train controller that no train is to be crossed.
- * When train orders are fulfilled, they shall be endorsed by the driver and guard "fulfilled" across the train order.

Cancelling a Train Order

The only difference when cancelling a train order is that when the order has been partially fulfilled and cancelled after the issue of a new train order, the original train order must be endorsed "cancelled beyond station".

Trains entering Train Order Territory

The guard and driver of each train entering into or originating in train order territory shall be supplied with advice of trains operating over the sections in which their train will run.

Train Disabled in Section

When there is a total failure, the guard reports to the train controller from the plug-in telephone adjacent to the scene of the failure and advises him of the position. The train controller informs the guard that a relief engine will be provided and the guard protects both ends by fixing three detonators with a red flag (red light at night) at both ends. He also advises the train controller that the train orders held by himself and the driver have been cancelled. The train controller then issues a new order authorising a relief engine to retrieve the failed train to clear the section.

QUEENSLAND RAILWAYS

TRAIN ORDER

TRAIN ORDER No. 14 Date 12/2/1971
 To Driver Smith Guard Jones
 Train No. 2 up Engine DEL 2108 at JILALAN Station

Proceed to BALOOK cross 3 down DEL 2101.
Then proceed to COPPABELLA

Transmitted to JILALAN Station 8:17 a.m.
R. Simpson Controller
 Repeated from JILALAN Station at 8:18 a.m.
 Stationmaster
 by R. Johnson
 Guard
 Driver

This form must be handed to Relief Driver and Guard when changing over and subsequently attached to Enginemen and Guards Time and Occurrence Sheet on completion of trip.

No. 1642

Fig. 1. Example of Train Order Form used by Trainmen and Stationmasters. This is the actual Train Order.

TRAIN ORDER AS ISSUED TO THE STATIONMASTER, JILALAN, FOR TRAIN NO. 2 TO PROCEED FROM JILALAN TO COPPABELLA CROSSING TRAIN NO. 3 AT BALOOK.

QUEENSLAND RAILWAYS

Form No. 22262

TRAIN ORDER No. 14 Date: 12/2/1971
 To Driver Smith Guard Jones
 Train No. 2 up Engine DEL 2108 at JILALAN Station

Proceed to BALOOK cross 3 down DEL 2101.
Then proceed to COPPABELLA

Transmitted to JILALAN Station 8:17 a.m.
 Controller R. Simpson Repeated by R. Johnson Stationmaster
 Guard 8:18 a.m.
 Driver

Particulars of Train Order No. 13 Issued to Opposing Train No. 3 down

Repeated to Stationmaster Johnson at Jilalan Station at 8:20 a.m.
 Guard
 Driver

No. 1793

Fig. 2. Example of Train Order Form used by the Train Controller. This is a record of the Train Order issued and is held in the control room.

Trains Dividing in the Section

1. The driver shall inform the guard of his intentions.
2. The fireman shall deliver to the guard the train order issued to the driver. The guard shall give the driver an authority in writing to proceed with the front portion of his train to the station or siding in advance and to return for the second portion.
3. The guard uncouples the front portion and places a red light (at night) on the leading end of the remaining portion. He will carry out a continuity test on the portion to be despatched and a target or light must be displayed on the last vehicle on the despatched portion.
4. After the front portion has been moved, the guard will place three detonators 500 yards in advance of the rear portion and display a red light or flag.
5. The driver shall advise the train controller at the first plug-in phone in advance where possible or the first crossing loop that he has divided the train and the mileage that the rear portion is standing.
6. The driver on his return shall deliver to the guard the authority received from him to divide the train and return for the second portion, and obtain from the guard the train order previously held.
7. If it is necessary for a locomotive other than the locomotive of the divided train to be used to return for the second portion of the train, the fireman shall accompany the relief engine with the authority to divide and return obtained from the guard of the divided train. The train order held by the relief train shall be cancelled by the train controller before the engine of the train enters the section.

A.N.R. Central Region

(formerly South Australian Railways)

The basic rules, transmission and cancellation are virtually identical to those of the A.N.R. Northern Region (see part 1). The main exception is in the case of a total failure which is dealt with as follows:

When communication has been established between the disabled train and the next station, a relief engine may proceed into the section upon receiving a train order stating the location of the disabled train. The relief engine must reduce speed and proceed cautiously when approaching the location mentioned in the order and be prepared to stop short of any obstruction.

Please note that train orders on the A.N.R. Central Region are mainly used in conjunction with other systems of safeworking and not just as an absolute system. On this system train orders are used to supervise, advise and replace in emergencies other forms of safeworking as follows:

On double line systems, train orders are used

- a) during failure of absolute signals
- b) to advise crews (Fig 3)
- c) in cases where single line working has to be introduced, a train order must be issued to the station master at each end of the section and to the pilotman. The pilotman must show the train order to the guard and engineman of each train he despatches.
- d) absolute block working for track machines (Figs 4 & 5).

On single line automatic systems, train orders are used as follows:

- a) to advise on restrictions for train running (Fig 3)
- b) working of track machines (Figs 4 & 5)
- c) failure of the system, train orders authorise trains to pass absolute signals at stop and proceed through the section on the authority of the train order (Fig 6).
- d) instruct trains where to cross and what line they should take at unattended crossing stations - used prior to CTC on the South line mostly (Fig 7)

On electric staff systems, train orders can be used for:

- a) advice of restrictions used in train running
- b) working of track machines
- c) failure of electric staff system or loss or damage of staff. The train orders authorise trains to proceed through the section without an electric staff.
- d) instruct trains where to cross and what line they should take.

Disadvantages of Train Orders

(Train Order only territory)

1. There is no physical token for possession of the section (e.g. ordinary or electric staff) or no track circuit protection.
2. The chance of human error is greater because this system relies totally on human responsibility.

Authors Note: Train Orders have also been used in N.S.W. and Victoria (called Train Section Orders). In N.S.W. they always seem to have been used when the Commissioners train was required to cross the regular train in the middle of a token section. This was a very clumsy and labour intensive operation and a copy of a typical circular for such an event is shown in Fig. 8.

A proposal was put forward in the early 1970s to replace token working on the Murwillumbah and Parkes-Broken Hill lines with Train Orders on a permanent basis, however, nothing has come of them.

Would any Victorian reader be interested in enlightening us on their system of Train Section Orders?

SOUTH AUSTRALIAN RAILWAYS

TRAIN ORDER

J 372101

TRAIN ORDER No. 20 19, 3, 1974

Minimum Car No.		
To Guard and Engine man	Train No. <u>955</u> at <u>Belair</u> Station.	
	Engine No. <u>702</u>	

Do not exceed 65 kilometres per hour while ordinary good vehicles are attached to your train

Received at Belair Station 11:07 A.M. / P.M.

Repeated from Belair Station at 11:08 A.M. / P.M.

By H. G. Brown Station Master }
N. Graham Engine man } Controller

This form must be handed to Relief Engine man and Guard when changing over, and subsequently attached to Engine man's Solly Report and Guard's Train Journal on completion of trip.

SR 700-2 1969

Fig. 3. Train Order advising the crew of reduced speed limit.

No. 377

SOUTH AUSTRALIAN RAILWAYS

TRAIN ORDER

J 372461

TRAIN ORDER No. 91 7/7/1974

Motorman Car No. To Guard and Engineman } *Langan in charge at Belair* Station. Train No. at Engine No.

Work on Belair Line between Belair and 23.00 K.M. towards Long Gully and return to Belair by 10.20am

Received at *Belair* Station *8.27* A.M.
Repeated from *Belair* Station at *8.28* A.M.
By *Hilboer* } Station Master
R. de Baratt } Engineman Controller

This form must be handed to Relief Engineman and Guard when changing over, and subsequently attached to Engineman's Book, Driver's and Guard's Train Journal, in accordance with...

Fig. 4. Train Order authorising track machines to work in the section until 10.20am.

No. 377

SOUTH AUSTRALIAN RAILWAYS

TRAIN ORDER

J 372463

TRAIN ORDER No. 92 7/7/1924
 Motorman Car No. _____
 To Guard Signalman at Belair and Long Gully Station.
 and Train No. _____
 Engineman _____
 Engine No. _____

*Do not allow any train to enter
 the Belair - Long Gully section
 until this order is cancelled account
 track machine working*

Received at Belair Station 8 32 A.M.
 Repeated from Belair Station at 8 33 A.M.
 Station Master }
 By Guard } J. H. Mason
 Engineman } R. H. Bassett Controller

This form must be handed to Relief Engineman and Guard when changing over, and subsequently attached to Engineman's Duty Report and Guard's Train Journal on completion of trip.

Fig. 5. Train Order instructing the signalman at both ends of the section that the track machines are working and no train is to enter the section until the work order is cancelled.

No. 377 SOUTH AUSTRALIAN RAILWAYS M. N. 61591

TRAIN ORDER

TRAIN ORDER No. 91 13/4/1976

To Guard and Engineman } Train No. 550 at Gladstone Station
 Engine No. 603

*Take main line at
 Yungala Cross Goods 501
 Engine 606*

Arrived at Gladstone Station 8.08

Departed from Gladstone Station at 8.09

Station Master } R. Huko
 } W. Graham Controller

This form must be handed to Relief Engine and Guard when changing over, and subsequently attached to Engineman's Daily Report and Guard's Liba Journal on completion of trip.

Fig. 7. Train Order instructing crews as to crossing arrangements on a section worked by automatic signalling.

No. 377

SOUTH AUSTRALIAN RAILWAYS

TRAIN ORDER

J 372583

TRAIN ORDER No. 86 24/ 8/19 74
 Motorman Car No. 258
 To Guard } Train No. 281 at Belair Station.
~~and~~ }
 Engine No. _____

Train Order working will operate in lieu of single line automatic signalling between Belair and Long Gully Pass Absolute signal 25 in stop position and proceed to Long Gully in accordance with Rule 98 clause D

Received at Belair Station 8.44 A.M.
 Repeated from Belair Station at 8.45 A.M.
 By Station Master }
 By Guard } *J. Lee*
 By Engine-man } *K. J. Bird* Controller

This form must be handed to Relief Engine-man and Guard when changing over, and subsequently attached to Engine-man's Daily Report and Guard's Train Journal on completion of trip.

Fig. 6. Train Order authorising train movements after the automatic signalling has failed for the section mentioned.

CIRCULAR No. 128.

DEPARTMENT OF RAILWAYS, NEW SOUTH WALES.

Instructions to Station Masters, Guards, Drivers, and all others concerned.

Derriwong (Bogan Gate—Condobolin): Bringing into use as a temporary crossing station—On Thursday, July 3rd only, at 8.0 a.m. Ordinary Train Staff and Ticket working in the section Bogan Gate—Condobolin will be temporarily suspended and No. 5 Rail Motor and No. W10 Commissioner's Inspection Special Train will be worked between Bogan Gate—Derriwong and Derriwong—Condobolin respectively by train orders.

The Chief Inspector, Parke, is to take charge at Derriwong on Thursday, July 3rd, and obtain the loose key for the section.

Prior to the departure of No. W10 from Condobolin he is to ensure that Frame "B" points at Derriwong are set for the Main line and are secured with standard clip and S.L. lock.

Flagmen equipped with flags and detonators are to be provided in place of home signals and Tassar boards are to be provided in lieu of distant signals in each direction.

At 8.30 a.m. on Thursday, July 3rd the Station Master, Condobolin, must advise the Chief Inspector in charge at Derriwong and the Station Master at Bogan Gate by telephone that the Train Staff and Tickets are secured under lock and key and that No. W10 Commissioner's Inspection Special will be despatched on a Train Order.

The Chief Inspector at Derriwong, and the Station Masters at Bogan Gate and Condobolin will confer and the latter officers must advise the Chief Inspector at Derriwong immediately Nos. 5 and W10 depart their station and that each train has been despatched on a Train Order.

The Station Master, Bogan Gate will show a written Train Order to the Guard (see specimen below) and hand it to the Driver of No. 5:—

<u>TRAIN ORDER.</u>	
Bogan Gate Station. 3rd July, 1969. Time.	
To the Driver of No. 5 Rail Motor:—	
The Ordinary Train Staff System is temporarily suspended between Bogan Gate and Condobolin during the times No. 5 Rail Motor and No. W10 Commissioner's Inspection Special Train enter and clear the sections Bogan Gate—Derriwong and Derriwong—Condobolin respectively.	
On the authority of this Train Order you are to proceed cautiously to a point at which a flagman is stationed to act as the Down Home Signal at Derriwong, and bring the train to a stand thereat, from which point you will be piloted to the required position by the Chief Inspector in charge at Derriwong, for the purpose of crossing No. W10 Commissioner's Inspection Special Train.	
The ordinary train staff and tickets for the section Bogan Gate—Condobolin are secured under lock and key at Condobolin.	
Signed	Station Master.

The Station Master, Condobolin, will show a written Train Order to the Guard (see specimen below) and hand same to the Driver of No. W10 Special.

<u>TRAIN ORDER.</u>	
Condobolin Station. 3rd July, 1969. Time.	
To the Driver of No. W10 Commissioner's Inspection Special Train:—	
The Ordinary Train Staff System is temporarily suspended between Bogan Gate and Condobolin, during the times No. 5 Rail Motor and No. W10 Commissioner's Inspection Special Train enter and clear the sections Bogan Gate—Derriwong and Derriwong—Condobolin respectively.	
On the authority of this Train Order you are to proceed cautiously to the point at which a Flagman is stationed as an Up Home Signal at Derriwong and bring the train to a stand thereat, from which point you will be piloted to the required position by the Chief Inspector in charge at Derriwong for the purpose of crossing No. 5 Rail Motor.	
The ordinary train staff and tickets for the section Bogan Gate—Condobolin are secured under lock and key at Condobolin.	
Signed	Station Master.

On arrival at Derriwong, No. 5 Rail Motor is to be admitted to the platform and upon completion of platform work the train is to be piloted into the siding by the Chief Inspector, who must ensure that the facing points are secured by standard point clip and S.L. lock.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

1. The first part of the experiment is to determine the molar mass of a polymer. This is done by measuring the osmotic pressure of a solution of the polymer in a solvent. The osmotic pressure is measured by a method known as the membrane osmometer. The polymer solution is separated from a pure solvent by a semi-permeable membrane. The osmotic pressure is the pressure that must be applied to the pure solvent to prevent it from flowing through the membrane into the polymer solution.

2. The second part of the experiment is to determine the degree of substitution of a polymer. This is done by measuring the change in the refractive index of a solution of the polymer in a solvent. The refractive index is measured by a method known as the refractometer. The refractive index of a solution is the ratio of the speed of light in the solution to the speed of light in a vacuum. The refractive index of a solution is a function of the concentration of the polymer and the refractive index of the solvent.

3. The third part of the experiment is to determine the molecular weight of a polymer. This is done by measuring the viscosity of a solution of the polymer in a solvent. The viscosity is measured by a method known as the viscometer. The viscosity of a solution is the resistance to flow of the solution. The viscosity of a solution is a function of the concentration of the polymer and the viscosity of the solvent.

4. The fourth part of the experiment is to determine the molecular weight of a polymer. This is done by measuring the sedimentation velocity of a polymer solution in a centrifuge. The sedimentation velocity is the rate at which the polymer molecules move through the solution under the influence of a centrifugal force. The sedimentation velocity is a function of the molecular weight of the polymer and the density of the solution.

5. The fifth part of the experiment is to determine the molecular weight of a polymer. This is done by measuring the sedimentation velocity of a polymer solution in a centrifuge. The sedimentation velocity is the rate at which the polymer molecules move through the solution under the influence of a centrifugal force. The sedimentation velocity is a function of the molecular weight of the polymer and the density of the solution.

On arrival of No. W10 at the platform at Derriwong the Chief Inspector will issue to the Driver a Train order for No. W10 to proceed to Bogan Gate, in accordance with the following specimen:—

<u>TRAIN ORDER.</u>	
Derriwong Station.	
3rd July, 1969.	
Time.	
To the Driver of No. W10 Commissioner's Inspection Special Train:—	
The Ordinary Train Staff System is temporarily suspended between Bogan Gate and Condobolin during the times No. 5 Rail Motor and No. W10 Commissioner's Inspection Special Train enter and clear the sections Bogan Gate—Derriwong and Derriwong—Condobolin.	
On the authority of this Train Order you are to proceed cautiously to Bogan Gate and thence obey the indications of the fixed signals.	
The ordinary train staff and tickets for the section Bogan Gate—Condobolin are secured under lock and key at Condobolin.	
Signed.....	Station Master.

Upon arrival of No. W10 at Derriwong Frame "B" points are to be reversed to permit No. 5 Rail Motor to depart from the siding. The Chief Inspector will issue a Train Order in accordance with the following specimen, show to the Guard and hand to the Driver of No. 5 Rail Motor:—

<u>TRAIN ORDER.</u>	
Derriwong Station.	
3rd July, 1969.	
Time.	
To the Driver of No. 5 Rail Motor:—	
The Ordinary Train Staff System is temporarily suspended between Bogan Gate and Condobolin during the times No. 5 Rail Motor and No. W10 Commissioner's Inspection Special Train enter and clear the sections Bogan Gate—Derriwong and Derriwong—Condobolin.	
On the authority of this train order you are to proceed cautiously to the Down Home Signal at Condobolin and thence obey the indications of the fixed signals.	
The ordinary train staff and tickets for the Section Bogan Gate—Condobolin are secured under lock and key at Condobolin.	
Signed.....	Station Master.

On arrival of No. 5 at Condobolin or No. W10 at Bogan Gate, whichever train is the last to clear the section, ordinary working is to be resumed.

Each train order is to be collected from the Driver at the completion of the journey for which it was issued, cancelled and forwarded to the District Superintendent Orange.

J. L. RUSSELL,

Chief Traffic Manager.

Sydney, 24th June, 1969.

Fig. 8. Train Order working in New South Wales.

--oOo--

— LAMENT —

J.M.Dunn.

They've taken away the electric staff,
And installed the staff and ticket;
"Line Clear Reports" are every day;
This job it's hard to stick it.
Instead of making progress,
The wheels are in reverse,
They carried the instruments out the door,
Like a coffin to a hearse.

Someone thought up this bright idea,
And reckoned the suggestion a "clinker",
But they didn't know they were going back,
To the days of the horse and jinker.
It's hard to believe the bells no more,
Will chime the train arrival,
I can't but think there is a doubt,
About railroad survival.

It staggers the brain when you think again,
And into the past you delve,
They progressed from "Ticket" to Electric Staff,
Way back in nineteen twelve,
Farewell you bells on the Mansfield line,
It does not seem like cricket,
To change the way to run the trains,
On Noah's Staff and Ticket.

--oOo--

MINUTES OF FEBRUARY 1985 MEETING

- HELD AT:** A.R.H.S. Library Room, Windsor railway station. The meeting commenced at 2015 hours.
- PRESENT:** J.McLean, W.Bates, J.Brough, J.Churchward, R.Jeffries, A.Kociuba, J.McCallum, S.McLean, J.Sinnatt & R.Weiss.
- MINUTES OF PREVIOUS MEETING:** Jim Brough read the minutes of November meeting from draft record and explained inability to furnish a copy in time for incorporation in "Somersault". The minutes were adopted as read on a motion by ?
- BUSINESS ARISING:** Discussion regarding the minutes in general ensued but there was little progress.
- URGENT BUSINESS:** The Group Leader announced a new item of business requiring urgent attention - Artifacts and Documents in Victorian Railways Archives and items of historical value (relating to all aspects of the various authorities concerned) now being withdrawn and superceded. The question of SRSV interest in the whole matter of
- a) Nomination
 - b) Safeguarding
 - c) Recommendation of action
 - d) Housing
 - e) Policy for display
- has been opened by responsible officers of the authorities concerned. After some discussion - what?, how?, why?, when?, when?, it was decided that a start be made with cataloguing items in detail with view to revealing answers to each of the aspects named - action was commenced there and then to nominate categories and list items therein with notes on bulk, weight and care against damage also accessories and spare parts where applicable. Bill Bates will assist in the cataloguing and Rob Weiss will be able to house some of the archives until such time as a permanent archives has been found. (North Melbourne?- Ed.).
- Jack McLean will convey to Messrs Wilson and Harvey (MTA & VLine) the decision of the SRSV to co-operate in the matter of recommendations.
- ITEM OF INTEREST:** Rob Weiss brought to notice that South End signal box (platform four at Spencer Street) will complete its 100 years of service on 1 March 1985. A discreet recognition of the fact will take place at about 1900 hours on that day.
- MEETING CLOSED:** at 2230 hours.
- NEXT MEETING:** Friday, 15 March 1985 at usual venue.

MINUTES OF NOVEMBER 1984 MEETING

- HELD AT:** A.R.H.S. Library Room, Windsor railway station. The meeting commenced at 2000 hours.
- PRESENT:** J.McLean, J.Brough, J.Churchward, W.Doubleday, D.Harvey, R.Jeffries, A.Jungwirth, D.Langley, S.McLean, B.McCurry, C.Rutledge, J.Sinnatt, R.Weiss, B.Wooding.
- MINUTES OF PREVIOUS MEETING:** were adopted as read (Jungwirth/Churchward)
- BUSINESS ARISING:** The proposed 10th anniversary meeting with the NSW Society was discussed and members indicated a strong feeling for proceeding. Alan Jungwirth suggested "halfway" venue - Junees sometime about early August and for about three days. Ten members indicated support. A report on further discussion with NSW group awaited.
- TOUR REPORT:** The Show Day inspection tour for 1984 was deemed once again to have been a successful day. Members travelled per the down Shepparton to Broadford where a special stop was almost not made. Inspections then took place of Broadford, McDougall Siding, Tallarook, Dysart, Seymour "A" & "B", Mangalore and, because of good time keeping, Avenel was also fitted in.
- A preliminary discussion on the proposal for 1985 regarding "a mystery tour" did not appear to gain support. (Better run a suburban tour instead.-Ed)
- CURRENT ACTIVITIES:** The Ararat-Portland line signalling scheme was discussed and it is hoped that a speaker will, in the future, be able to enlighten us on proceedings.
- CORRESPONDENCE:** Jack McLean reported on a letter sent by Mr. McCormack of Ballarat which was sent to the V.R. Signalling Division, handed on to Jack and then finally given to Graeme Reynolds in Ballarat to ascertain the letters purpose.
- GENERAL BUSINESS:** John Sinnatt advised members regarding the preparation of a syllabus item to be delivered about mid 1985. This may prove to be the long awaited treatise on level crossing protection a subject that John is so knowledgeable about.
- Rob Weiss reported that subscriptions are due at the end of the year.
- David Langley proposed a signal box tour in the metropolitan area - to be considered.(?-Ed.)
- Jack McLean advised that Bob Taaffe is now the father of a boy and appropriate congratulations were despatched.
- SYLLABUS ITEM:** Alan Jungwirth presented a series of slides - "a mystery tour of the V.R." and asked members to write down where they thought the locations were. Much head scratching ensued as to "where and what" and at the end comments such as "of course" were heard. The exercise proved that some members were not very widely travelled or did not remember places visited, one member was noted scoring 19 out of 20 and Jack McLean only missed on two. Alan Jungwirth was thanked in the usual manner for an entertaining evening.
- MEETING CLOSED:** at 2300 hours.

S.R.S.V. CROSSWORD No 9.

compiled by S.McLean

ACROSS

- 2. BN and CO (9)
- 7. Gully where railway is found (4)
- 8. 600 and 2000 (8)
- 12. Where rail crews go for relief (2)
- 13. Vehicle found at both ends of a railway (2)
- 14. Forth railway in Scotland (3)
- 16. Tourist met be rail traveller in USSR (2)
- 18. Once a golden sight on the Southern Railway (5)
- 20. Railhead near Doncaster (5)
- 22. Rocky railway (3)
- 24. Prevents trouble with frogs (9)
- 26. Railway maniacs end up in this carriage (2)
- 27. Alternative part of Congo Railway (2)
- 28. Railway coffee may be served from this part of Goulburn (3)
- 29. Off-line (6)
- 31. Loco which forms part of Westrail (2)
- 32. A wire got tangled at this closed NSW railway station (5)

1		2	L			3		4	A	5	L	6	L	
			A					7	L	8	O	N	G	
8	R	A	I	L	9	C	A	R	S		12	F		
	A		D		13	R	Y		T		14	T	A	15
16	I	17	N			18	A	R	R	O	19	W		
20	L	E	E	21	S			22	C	P	23	R		
	W			24	E	E	25	C	K	R	A	P	L	
26	C	S						27	O	R		I		
28	U	R	N			29	D	E	R	A	I	L		
31	R	A		32	W	E	R	A	I		33	W	A	S
35	V	I	36	C		37	R	A	I	L	38	W	A	S
39	E	L	L	A	M						40	D	Y	K

- 33. Initial worry about Steamrail is past (3)
- 35. A rail which split in 1983 (3)
- 37. Goes round madly (7)
- 39. Railway station found back in the Mallee (5)
- 40. Kevin's railway is built on this peninsula (4)

DOWN

- 1. Pass over the border (6)
- 2. Spiked (4)
- 3. Paris railway goes both ways (3)
- 4. Bert's railway engine (2)
- 5. The right line for a Railway (4)
- 6. Spa railway (4)
- 9. Result when rails were badly laid in Wall Street (5)
- 10. Ray changes on the Glasgow and South Western Railway (3)
- 11. Sheepish part of points? (9)
- 15. FP (7)
- 17. Monthly (8)

- 19. Old port on the railway beyond Newport (3)
- 21. Current state of Melbourne's rail system (2)
- 23. 7 13 (7)
- 25. Nice cars (6)
- 26. Notable feature of plain railway (5)
- 29. Should this railmotor be included under modernization plan? (4)
- 30. Time for railfan group to turn up (3)
- 34. Cook's railway (3)
- 36. Rail line which isn't through to Caulfield (2)
- 38. Four days on the railway (2)

Solution to Crossword No 8: ACROSS: 1. Sequential, 8. Ban, 9. Switchstands, 12. US, 13. Tallarook, 16. Main, 18. ES, 20. BN, 21. Streak, 23. Assist, 24. ACE, 25. Siding, 26. Haig, 29. Arm, 31. Clerestory, 34. ZL, 35. Menu. DOWN: 1. System, 2. Quintinshill, 3. NBH, 4. Tas, 5. Intermediate, 6. IAN, 7. Moss, 10. CCL, 11. Duke, 14. AN, 15. Lattice, 17. ABS, 19. Steam, 21. SSS, 22. Kagaru, 23. Ash, 27. ACZ, 28. GE, 30. Ry, 32. SM, 33. On.