C. 8/69 **Acknowledge**

(For the use and information of Employes only)

VICTORIAN RAILWAYS

Centralised Traffic Control System

RULES

For Automatic Signalling on Single Lines
And Remote Control of Points
And Signals at Unattended
Crossing Loops

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CENTRALISED TRAFFIC CONTROL SYSTEM

Rules for Automatic Signalling on Single Lines and Remote Control of Points and Signals at Unattended Crossing Loops.

As applicable to the Standard Gauge Line between West Footscray and Wodonga Loop and the Victorian Gauge Line between Albion and Broadmeadows.

This System does not in any way dispense with the use of hand or detonating signals, whenever and wherever such signals may be requisite to protect obstructions on the Line. The Rules and Regulations contained in the Book of Rules and Regulations, the instructions contained in this book and any other printed or written notices that do not conflict with these Rules are effective so far as they apply to this system of signals.

Description of Centralised Traffic Control Apparatus located in the Train Control Office, Spencer Street :

The apparatus consists of an illuminated track diagram, a control console and a communications consolette.

The illuminated track diagram is a representation of the 188 miles of Standard Gauge track between West Footscray and Wodonga and the Victorian Gauge track between Albion and Broadmeadows.

The signalling territory is divided into a number of locations. A location may be a Crossing Loop, a grade crossing or an electric switch locked siding. The track is represented by white lines on black panels. Track occupancy is indicated by amber lights on the track line representing the section of track occupied. The normal or reverse position of points is indicated by a lunar white light on the respective track line. When electric switch locked points are in the normal locked position, the light indicating the normal position of the points will be displayed. Flashing of the reverse light indicates that the "Release" is available for unlocking the points. Similarly, when a grade crossing pilot lever at a Station or Signal Box is in the normal locked position, the light representing the Standard Gauge track will be displayed. Flashing of the Victorian Gauge track light indicates that the "Release" is available at the respective Station or Signal Box. A steady light in the reverse position indicates that the Release of the switch lock or grade Crossing has been accepted.

The normal and reverse indication of a Signal is denoted by a red or green light in the signal symbol on the diagram. A single stroke bell announces the passage of a train over the fouling track section at each end of a Crossing Loop. A bell having a different tone announces the entry of a train to the territory controlled by the Control Panel.

The control console contains a location selector, points and signals control panel, auxiliary control panel and two communication panels. The location selector consists of two columns of push buttons. Selecting the location makes the control panel push-buttons effective for controlling the points and signals at that location.

An automatic train graph for making a permanent record of train movements is provided on the right hand side of the Control Console. This graphic recorder is mounted horizontally below a glass on the desk top and operates a continuous chart, which advances at the rate of three inches per hour. An individual pen is provided for each end of a Crossing Loop. The pens are of the three-position type, and move to the left to record the clearing of a Home signal, and to the right for a train occupying the fouling track circuit which restores the Home signal to Stop.

1. **Definitions**

(a) Single Line section—the entire section of the track extending between adjoining Crossing Loops.

(b) Track Section—any division of the Single Line section, the entrance to which is governed by a Fixed Signal.

(c) Unattended Crossing Loop—a Loop used for crossing or side-tracking trains at which the points and signals are remotely controlled from the Train Control Office, Spencer Street.

(d) Train Controller—the "Train Controller" directing the movements of trains and operating the points and signals under the Centralised Traffic Control system.

(e) Remote Control—the operation and control of points and signals from the Train Control Office by means of electric circuits and motors.

(f) Grade Crossing—the intersection of the Victorian Gauge Line with the Standard Gauge by means of a "diamond" crossing.

(g) Home Departure Signal—the Signal controlling the entrance of trains to a Single Line Section.

(h) Home Arrival Signal—the Signal controlling the arrival of a train to a Crossing Loop or from the Single Line section Albion–Broadmeadows to the Double Line at Albion and Jacana.

2. A Single Line Section may be divided into two or more Track Sections; the entrance of a train into each Track Section is controlled by a Fixed Signal.

3. Object of the System

(a) The object of the System is :—

(i) When two or more trains are to proceed in the same direction—To prevent more than one train being in a Track Section at the same time, and

(ii) When trains are to proceed in opposite directions on the Single Line—To prevent more than one train being on the Single Line section between two Crossing Loops at the same time.

(b) The object is accomplished as follows :—

(i) In the case of trains proceeding in the same direction—By the Fixed Signals being electrically secured at the Stop position unless the track section ahead of the Signal is clear.

(ii) When trains are to proceed in opposite directions—By the signals being electrically controlled by the track and the Departure Signal at the opposite end of the section, so that it is not possible for the signals controlling the entrance to the Single Line section at opposite ends to simultaneously exhibit a signal to proceed, and if a train has entered a section by the opposing Home Departure Signal being secured at the Stop position.

4. Fixed Signals

(a) The arrival Signals at Crossing Loops and the Departure Signals controlling the entrance of trains to the Single Line section are Three-position Home signals.

(b) The intermediate signals between Crossing Loops are Three-position Automatic signals.

(c) The signals protecting grade crossings are Three-position Home signals.

(d) In addition to the ordinary control of Fixed signals referred to in Rule 3, any of the conditions shown hereunder will at once replace an electrically controlled Fixed signal to stop and secure the signal in that position :—

(i) Any metallic or other conducting substance so placed as to form a connection between the rails.

(ii) A broken or displaced rail or broken line wires.

(iii) Any wire bond becoming detached or broken.

(iv) Points at Intermediate Sidings not properly set for the Main Line.

(v) Door of switch Box at intermediate switch locked siding left open.

(vi) Selector Lever of Point Machine not being in the Motor Operating position.

(e) If any defect hindering, or likely to hinder, the proper working of signals is noticed by any employe, he must at once communicate with the nearest Stationmaster or the Train Controller in order that the defect may be remedied without delay.

(f) In addition to the normal indication, i.e. Stop, the following indications may be displayed on signals at Crossing Loops :—

Signals	Indications
Arrival ..	(i) When the points are set for No. 1 track and the track section is clear—Low Speed or Clear Normal Speed. (ii) When the points ahead of the signal are set for No. 1 track and those at the opposite end for No. 2 track and the Track Section is clear—Low Speed. (iii) When the points ahead of the signal are set for No. 2 track–Low Speed.
Departure ..	The Departure signals from No. 1 track display a Normal Speed and from No. 2 track a Medium Speed indication.

(g) When the Medium Speed indication is displayed for a train to depart from No. 2 track or when a Dwarf signal is at Proceed for a train to depart from No. 3 track at a Crossing Loop, the speed restriction specified will only apply until the train has cleared the points protected by the signal. Regulation 59, clause e, is modified accordingly.

(h) In the event of a train being required to enter an occupied track at a Crossing Loop or if there is a track circuit failure affecting the Home Arrival signal, it will be necessary for the Train Controller to push the low speed button after operating the signal button. To restore the signal to Stop, after a Low Speed indication has been displayed in these circumstances, the location must be selected and the signal button pulled.

5. Home Signals

(a) Home Departure Signals control the entrance of trains to the Single Line section. No train must pass these signals at the Stop position except as shown in sections (i) to (iv) hereof :

Exceptions :

(i) Where the traffic is being conducted under Pilot-working conditions and the Driver is authorised by the Pilotman to pass the signal. See Rule 20.

(ii) When in accordance with Rules 23 and 24 it is necessary for a Relief Engine or train to enter the section to render assistance to an Engine disabled on the Single Line.

(iii) When in accordance with Rule 21, an Engine is required to return from a Crossing Station or Loop for a portion of a train left on the Single Line.

(iv) When in accordance with Rule 19, a Caution Order has been issued to pass the signal.

Note: At certain Crossing Loops, Dwarf Signals are provided at the exit from No. 3 track. As these signals control the entrance of trains to the Single Line section, the above exceptions will also be applicable to passing a Dwarf Signal at the Stop position.

(b) Home (Arrival) Signals are situated a short distance on the approach side of the Facing Points they protect.

No train must pass a Home Arrival Signal at the Stop position, except when the signal is defective, in which case the authority to pass the signal will be as indicated hereunder :—

(i) The Train Controller, after satisfying himself that no train is entering the Crossing Loop at the opposite end and that the opposing Arrival signal is at Stop and the white light on the track diagram in the Train Control Office Panel indicates that the points are in the correct position, may authorise the Driver to pass the signal at stop by issuing telephoned instructions which must be written down by the Driver.

The following message form must be used :

"The Arrival Signal Post No..... at ..... Crossing Loop having failed, I authorise you to pass it at the Stop position after satisfying yourself that the points are set for No... track.

Name.....Train Controller.

(ii) If the points have failed, the Train Controller, before giving the authority to the Driver to pass the signal at Stop, must arrange for the Guard to place the Selector lever to the hand position and operate the points as required.

After the train has cleared the points, the Guard must restore the Selector and Hand Throw levers to the normal position. In the case of a light Engine the Driver must carry out the duties prescribed for the Guard.

(iii) In the event of a failure of telephone communication with the Train Controller, the employe who is appointed to act as Signalman at the Crossing Loop, after operating the Selector Lever to the hand position and ensuring that the points are in the correct position and that the movement can be safely performed, may authorise the Driver to pass the signal by issuing the abovementioned message form.

He must sign the form, delete the words "Train Controller" and insert the word "Signalman" in lieu thereof.

6. **Automatic Signals**—Automatic Signals are erected at intermediate locations between Crossing Loops, and except as shown hereunder, these signals may be passed at the Stop position as laid down in Regulation 74.

Exceptions :—

(i) When there is an intermediate Siding with points secured by an Electric Switch Lock, in the track section ahead of an Automatic signal which has been passed at the Stop position, Drivers, in addition to complying with Regulation 74, must, before passing over the points at the Siding, examine them and see that they are in the normal position for the train to pass.

(ii) In the event of the points being in the reverse position, the Driver must arrange for them to be placed in the normal position and immediately report the matter to the Train Controller by means of the telephone provided at the Siding.

7. **Operation of points at Unattended Crossing Loops :**—The points at each end of the Unattended Crossing Loops are operated by Dual Control Point Machines, by means of which the points are normally operated from the Train Control Office and, when necessary under emergency, by the Train Crews as hand points.

8. **Approach Locking**—The approach locking of the points is applied directly to the point machine at the points concerned and not by means of an electric lock at the point control push button.

Approach locking becomes effective on the operation of the signal control push button and is normally released on the passage of a train.

In the event of a signal governing points having been cleared and it is necessary to restore the signal to Stop before a train is required to pass the signal, the Train Controller must pull the signal button.

The steady green light in the signal symbol will be extinguished and it will be replaced by a flashing red light until the locking has released after a predetermined time interval.

9. **Dual Control Point Machines :—**

(a) The machine has two levers both on the same side of the machine. The levers normally rest on stops to which they

are secured by padlocks. Similar stops are provided for the levers when they are in the reverse position, The levers are known as "Selector" and "Hand Throw" lever respectively. The former is the smaller lever of the two and after it is placed from the Motor Operating position to the Hand Operating position, the points can be worked by hand.

The function of the Selector lever is to determine whether points are connected for motor operation or for hand operation.

In the normal position the lettering "Motor" appears on the upper side, indicating that the lever is in position for motor operation, when unlocked and moved to the reverse position, the lettering "Hand" appears on the upper side indicating that the points are ready for hand operation. With the Hand Throw Lever the points may be operated as ordinary hand points, providing the Selector lever has first been operated to its reverse position. The lettering "Hand Throw Lever N" appears when it is in the normal position and "Hand Throw Lever R" when at reverse.

(b) Immediately the Selector lever is moved from the Motor position to the Hand position, the control from the Train Control Office will be rendered ineffective and the signals governing movements over the points will be held at Stop.

(c) In the event of a point failure and it is necessary for the points to be operated by hand, the employe concerned must, in each case, first unlock the Selector lever and move it to the Hand operation position. If the points are normal, moving of the Hand Throw lever will unlock and reverse the points and lock them in that position. If the points are reverse when the Selector lever is moved to the Hand position, the Hand Throw Lever must then be operated to reverse, when the points may be operated as required.

(d) If the points move to the full normal or reverse position by the operation of the Hand Throw Lever, but the lever will not travel on to its stop, the points are unlocked. In these circumstances arrangements must be made for the points to be secured with a point clip before a train is permitted to pass over the points.

10. **Crossing Trains**—When trains are to cross, the Train Controller must, before operating either Arrival signal, set the points for the train that is required to enter No. 2 track, after which both Arrival signals may be operated, and each signal will display the Low Speed indication —one for No. 1 track and one for No. 2 track.

Note —No. 1 is the straight track, i.e. the track for which the points normally lie and No. 2 is the Loop track.

Note —The low Speed signals may be exhibited before a train has come to a stand at the Home Arrival signal and the last paragraph of Clause (d) of Regulation 59, will not apply to these signals.

11. **Telephones and Telephone Cabins**—Telephones of the Selector type are provided in Cabins at each end of each Crossing Loop.

The doors of the Cabins are secured with V.R. 5P padlocks.

Telephones of the Selector type are also provided at the Arrival and Departure Signals at Crossing Loops and at the Fixed Signals protecting grade crossings

12. **Electric Switch Locks—Intermediate Sidings**

(a) The points leading to an intermediate siding are rodded to Catch points in the Siding, worked by a lever in a frame and secured by an Electric Switch lock.

The Switch lock is so constructed that, except as set out in clause (c) hereof, whilst the track section in which it is situated is occupied by an engine or train, the switch is locked.

For a movement to or from the Siding a "Release" must be given by the Train Controller.

(b) The Switch Lock is contained in a box located near the facing points. The door of the box is secured by a V.R. 5P padlock. Inside the box is a (i) Finger Trigger, (ii) a Releasing Handle and (iii) a Semaphore Indicator. (see illustration page 467, General Appendix).

(c) When a train requires to work at the Siding, the engine or some portion of the train must be stopped clear of, but within 60 feet in advance of, the facing points, in order to effect a release.

Example :—

(i) A train in the trailing direction having to put off or pick up vehicles in the Siding must stop with the engine opposite the Catch points in the Siding, engine or vehicles detached and run ahead, stopping with rear vehicle not more than 60 feet ahead of points.

(ii) If the whole of the train is to enter the Siding, train must be stopped with rear vehicle not more than 60 feet ahead of points.

(iii) If the engine or train require to enter the Siding in a facing direction, the engine is to be stopped within 60 feet of points.

(d) When the engine or portion of the train is stopped as instructed above, the Guard or Fireman must open the Switch Box door, take hold of the finger trigger with the left hand, drawing it outwards and holding it out until the semaphore indicator assumes the "Clear" position; with the trigger still held out, the releasing handle must then be moved from right to left. The points may then be operated from the lever.

(e) If the whole of the train is to enter the Siding, the Guard or Fireman must, when it has cleared the Catch points, immediately restore the points to normal, move the releasing handle in the switch box to its normal position on the right and close and lock the switch box door.

Note—

When a portion of a train is standing on the main line while a Switched Locked Siding is being worked, the points must not be placed to normal, but must remain set for the siding until the engine has returned to the main line, otherwise the Switch will become locked until a vehicle is again placed on the releasing rail within 60 feet ahead of the points.

(f) When a train or engine which has been completely side tracked to a Switch Locked Siding is ready to proceed, the Guard or Fireman must first receive permission to enter upon the main line from the Train Controller by means of the telephone provided. When permission has been obtained, the Guard or Fireman must then open the door of the Switch box and if the Semaphore indicator shows "Clear" act as

laid down in Clause (d) hereof, except that he must not operate the finger trigger, and when the train or engine is clear of the points in the main line, the points must be closed and locked as set out in sub-clause (e).

(g) In the event of the Guard or Fireman, after receiving permission from the Train Controller to depart from a Switch Locked Siding, finding the Semaphore indicator showing Stop, i.e. arm horizontal, he must not attempt to manipulate the mechanism, but must communicate with the Train Controller.

(h) Cripple Tracks—The points leading to Cripple Tracks at Crossing Loops are secured with an Electric Switch Lock as described in the foregoing Clauses; however, the operation of the points differs as indicated hereunder :

Subject to the main line points being in the reverse position the release of the switch lock points to a Cripple Track is effected by the Train Controller pressing the applicable points button.

This operation causes the Semaphore arm in the Electric Switch lock box to assume the Clear position and indicates to the Guard or other employe concerned, that the points are free to be moved.

The Guard or other employe must then move the releasing handle from right to left and operate the points from the lever.

The use of the finger trigger is not necessary.

The electric circuits are so arranged that, when the Train Controller has given a release of the Switch Lock, the Signals controlling the entrance of trains to the Single Line section, at the opposite end, are secured at the Stop position.

13. **Pilotman's Key**—For each end of each Single Line section, a special key, called the Pilotman's Key is provided, which, when withdrawn from its lock, secures at the Stop position the signal controlling the entrance of a train at that end of the Single Line section.

The Pilotman's Key is kept in a box, secured by a Yale lock, in the telephone cabin.

The Yale key to open the Pilotman's Key Box is contained in an adjacent box secured by a paper seal.

14. **Blocking Jacks**—Blocking jacks are provided for inserting into holes below the track line on the illuminated diagram and perform the same function as the sleeving of levers.

To prevent a train entering a single line section at either end, a blocking jack should be inserted in a hole below the track section light.

The protection of a track in the Crossing Loop is effected by moving the points to normal or reverse, as the case may be, and the insertion of a blocking jack in the diagram below the respective points.

If it is necessary to secure the Arrival Home signals at Stop, a blocking jack should be inserted in the hole in the diagram under the centre of the Crossing Loop.

Likewise, at grade crossings the clearing of Home signals protecting the crossing is prevented by the insertion of a blocking jack in the hole below the grade crossing.

15. **Train an unusually long time in section**—When a train is an unusually long time in a section, the Train Controller must make every effort to ascertain the cause and inform the Train Controller on the Victorian Gauge section. The latter Train Controller must immediately advise the Signalman concerned, in order that any Victorian Gauge train may be stopped and the Driver warned.

16. **Fouling a section of the Single Line for local movements**—Except where special instructions are issued to the contrary, no train must be allowed to foul a Single Line section outside the Home Arrival signal for local shunting or other movements unless the Home Departure or Dwarf signal controlling the entrance of trains to the Single Line section about to be fouled is at the Proceed position or the movement is to be performed from the Cripple track.

17. **Train not to return to Crossing Loop in rear**—Except when specially authorised or as provided in these Rules, a train which has entered a Single Line section must not return from any intermediate point in the section to the Crossing Loop in the rear.

Where permission is specially granted for a train to return to the Crossing Loop in the rear, for reasons other than a total obstruction in the section, the Train Controller must issue a Train Order as authority for the movement. Before issuing the Train Order the Train Controller must secure the Home Departure signal applicable to the occupied section at the Crossing Loop in the rear at the Stop position by means of a blocking jack.

18. **Grade Crossings—Failure of Home Signals—**

(a) Grade crossings are protected either by a Home Departure signal at a Crossing Loop or by intermediate Home Signals. No train must pass an intermediate Home Signal at the Stop position, except on instruction from the Train Controller, who, before authorising the Driver to pass the signal must satisfy himself that it is safe for the train to proceed over the grade crossing. In addition, the Train Controller must give the Driver his name for record purposes.

Where there is an intermediate Siding, with points secured by an Electric Switch Lock in the track section ahead of a Home signal which has been passed at the Stop position, Drivers must, before passing the points at the Siding, examine them and see that they are in the normal position for the train to pass.

In the event of the points being in the reverse position, the Driver must arrange for them to be placed in the normal position and immediately report the matter to the Train Controller.

When a train is stopped at an intermediate Home signal, the Driver must promptly communicate with the Train Controller by means of the telephone provided at the signal post.

(b) In the event of a failure of the telephone at the signal post, when the signal is at the Stop position, the Driver must arrange for the Fireman to proceed to the Signal Box and inform the Signalman.

The Signalman must communicate with the Train Controller and subject to the grade crossing being clear and all applicable Victorian Gauge signals are at the Stop position, the Train Controller may give permission for the signal to be passed at the Stop position. The Signalman must then issue a Caution Order (Regulation 95) as authority to pass the signal at the Stop position and hand it to the Fireman to deliver to the Driver.

If the Signal Box is closed and a Signalman is not on duty, the Fireman must so inform the Driver, and the latter may pass the signal at the stop position and proceed as laid down in Regulation 74.

(c) At locations where a Home signal protecting a grade crossing is equipped with an illuminated letter 'A' and the Driver finds the Home signal at Stop and the letter 'A' is not displayed, he must communicate with the Train Controller and obtain his permission to pass the signal. If the telephone has failed, the procedure indicated in Clause (b) must be adopted.

19. **Failure of Departure Signal controlling the entrance of trains to a Single Line Section—**

(a) In the event of the Departure Signal failing to assume the Proceed position, when it is reasonable for the Driver to expect that there is no train in the section to which it applies, the Driver must communicate with the Train Controller.

The name of the Crossing Loop, the number of the Signal and the name of the train must be given to the Train Controller by the Driver.

(b) The Train Controller on becoming aware of the failure of a Home Departure Signal must immediately check the following in order to ascertain that the failure of the Signal to assume the Proceed position is not caused by a train or vehicle being in the section.

(i) Whether the last train signalled has cleared the section.

(ii) Where the Home Departure Signal protects a Grade Crossing whether the Grade Crossing is clear and permission has not been given for a Victorian Gauge movement over the Crossing.

(iii) Whether a shunting movement is being performed outside the opposing Home Departure Signal.

(c) (i) If the Train Controller is satisfied that the signal has failed and that the section is clear, he must secure the opposing Departure Signal at the Stop position by the following means :—

Signal failure caused by other than "Westronic" fault—Insertion of Blocking Jack.

"Westronic" failure i.e. an absolute failure of the Centralised Traffic Control apparatus—By arranging for a competent employe to withdraw the Pilotman's Key or for the Guard of a train waiting at the Crossing

Loop at the opposite end of the section to unlock and place the Selector Lever in the reverse position.

(ii) If the indicating light on the Diagram shows that the points are in the correct position, the Train Controller may then issue to the Driver a Caution Order on form T.R. 13C as authority to pass the Signal at Stop.

The Driver must sign his name as Signalman and repeat the order back to the Train Controller, in order to ensure that it is correct.

When the train is ready to depart, the Driver must arrange for the Fireman to signal to the Guard by an "all right" Hand signal by day and a Green Light at night. The Guard will then understand that the Driver has received authority to pass the Signal at the Stop position.

(iii) In the event of the points indicating light not being exhibited to show that the points are in the correct position, the Train Controller must instruct the Driver to call the Guard to the front of the train.

The Guard must then be instructed by the Train Controller to operate the Selector Lever to the Hand position and the points as required for the passage of the train. When this has been done, the Guard must so inform the Train Controller, who may issue the Caution Order to the Driver.

After the rear of the train has cleared the points, the Guard must signal the Driver to Stop. He must then restore the Selector Lever and Hand Throw Lever to the normal position and lock both levers. The train may then proceed. In the case of a Light Engine, the Driver must carry out the duties prescribed for the Guard.

(d) If the Signals and indicating lights at the Crossing Loop at the opposite end of the Section have also failed, the Driver when being given the Caution Order, must be instructed by the Train Controller to stop at the next Crossing Loop and report the arrival of the train.

In the event of the failure existing at one end of the Single Line section only, it will not be necessary for the Driver to

stop at the next Crossing Loop, if the applicable Fixed Signals are at the Proceed position.

(e) The Driver must cancel the Caution Order after use by writing the word Cancelled across the face of the Order.

Cancelled Caution Orders must be forwarded by the Driver to the Depot Foreman.

(f) When necessary, and if practicable, a Signalman will be appointed to take charge at a Crossing Loop where a Signal failure has occurred, and he will be responsible for receiving the Caution Order from the Train Controller and delivering it to the Driver. He will also be responsible for the operation of the Selector and Hand Throw Levers as required.

If expedient, arrangements may be made for Pilot-working (as per Rule 20) to be instituted on the affected section. Pilotworking may be established by a train travelling through the section by Caution Order.

(g) Drivers of all trains and Light Engines on the Standard Gauge Line must be in possession of a 5P Key which will be supplied by the Depot Foreman. It will be the responsibility of the Driver to ensure that he receives the 5P Key.

Unless otherwise instructed, the Driver must, when finishing duty, deliver the Key to the Officer in Charge of the Loco Depot.

20. Failure of Signalling Apparatus and also Selector Telephone System—

(a) Should the telephone communication between the Train Control Office and the Crossing Loops, as well as the Signal controlling the entrance of trains to the Single Line Section, have failed, arrangements must be made for Pilotworking to be instituted.

(b) The Stationmasters at the Stations nearest to the affected Crossing Loops must confer and arrange for a competent employe to act as Signalman at each Crossing Loop and arrive at a definite understanding in regard to the Pilotworking arrangements.

(c) The Stationmaster who undertakes to make the arrangements for working by Pilotman must appoint a competent person

to act as Pilotman and must fill up three of the printed forms (the Forms vide Rule 27, of the Electric Staff Rules, suitably amended must be used) for establishing the system of working by Pilotman. One of these forms signed by the Pilotman, the Stationmaster must deliver in the presence of the Pilotman, to the Signalman at the Crossing Loop at his end of the section, and the others must be given to the Pilotman. The Signalman must hand the Pilotman's Key to the Pilotman.

(d) The Pilotman, when he is in possession of the Pilotman's Key and is satisfied that the Signalman has received the printed Form duly filled up, and that the Signalman understands that no train is to be allowed to enter the section until he returns, must proceed as quickly as possible to the other end of the section. On arrival at the other end of the section he must deliver a copy of the Form (signed by himself) to the Signalman (who must also sign the Form held by the Pilotman). The Signalman must hand the Pilotman's Key to the Pilotman. Trains may then be allowed to enter the section under the following instructions.

(i) The Pilotman must inform the Driver and Guard of each train of the circumstances and when practicable, accompany every train, but when it is necessary for two or more trains to proceed in the same direction before a train has to be started from the other end, the Pilotman must order all trains to proceed except the last, upon the engine of which he must ride.

After starting a train which he does not accompany, the Pilotman must not permit another train to enter the section until the running time for the track section has elapsed. When admitting a train into a section after the interval of time prescribed above, the Driver must be instructed by the Pilotman that his train has been preceded by another train.

(ii) The Pilotman must wear a distinctive badge, which until the regular badge can be obtained, must be a red flag tied round his left arm above the elbow. The regular badge is a red armlet with the word "Pilotman" shown thereon in white letters.

(iii) Should the Pilotman give up the working to another, fresh Forms must be issued, on which the name of the

new Pilotman must be inserted. The fresh forms must be delivered by the new Pilotman and substituted for the old Forms, and the necessary signatures obtained on the fresh Forms; he must at the same time withdraw the old Forms, and at once cancel them by writing the words "Cancelled" and the time, date and his signature, across the face of them.

The issue of the fresh Forms must only be done by the person who arranged the Pilotworking, to whom the new Pilotman must afterwards deliver the old Forms; the fresh Forms must not be issued until the Form and badge have been collected from the Pilotman being relieved.

(iv) The Signalmen at the Crossing Loops must not, on any account, allow any train to pass into any section that is being worked by Pilotman, except under the Pilotman's instructions and when he is present.

The Signals applicable to trains entering the Single Line section must be kept at the Stop position, but Drivers may pass such signals when instructed to do so by the Pilotman.

The Pilotman must obtain the permission of the Signalman before allowing a train to enter upon the section.

(e) If the signalling apparatus is repaired after the Pilotman with the forms has left the Crossing Loop at which he was appointed and before reaching the opposite end of the Section, no train must be allowed to pass on to the Section until the Pilotman has arrived and completed the Pilotworking arrangements which must remain in force until cancelled as provided in Clause (f) hereof.

(f) When the signalling apparatus is again repaired and ready for use, and before ordinary working is resumed, the Stationmaster who instituted Pilotworking must make out and sign the necessary Cancellation Orders, a copy of which must be delivered by the Pilotman to every person who received a Pilotworking Form, such form to be collected and cancelled by the Pilotman writing the words "Cancelled" and the time, date and his signature, across the face of it; when this is done,

and the Pilotman's Key has been restored to its normal position, the traffic will again be conducted in accordance with these Rules.

21. Train or Portion of Train left on Single Line—

(a) When a train or portion of a train is left on the Single Line Section from accident or inability of the engine to take the whole forward, the Driver must not return for the rear portion of his train except by written instructions from the Guard.

(b) When the front portion of the train is taken forward to the next Crossing Loop, the Driver must confer with the Train Controller and dispose of the first portion as directed.

(c) The Driver's authority to pass the Departure Home Signal for the purpose of returning for the rear portion of the train will be the written order from the Guard.

(d) The Guard, after securing the rear portion of the train, must protect it in the rear in accordance with Regulation 239.

22. (a) Should a train accompanied by the Pilotman become disabled, he must make the best arrangements for procuring assistance without delay.

(b) In the event of a train unaccompanied by the Pilotman becoming disabled, the Guard must protect his train as directed in Regulation 239 and communicate with the Pilotman as soon as possible.

(c) When portion of a train is left upon a Section worked by Pilotman, from inability of the engine to take the whole forward, the Driver (accompanied by the Pilotman) may return for the rear portion of his train on the Pilotman's instructions; if, however, the Pilotman be not accompanying the train, the Driver must not return for the rear portion of his train unless he holds written instructions from the Guard authorising him to do so. The Pilotman may, after obtaining the Train Controller's permission, authorise the Driver to pass at the Stop position the Home Departure Signal controlling the entrance to the Section in which the rear portion of the train has been left.

23. **Train Disabled—**

(a) In the event of a train becoming disabled in the Section and a relief engine is required, the Driver must hand to his Fireman, a written order, stating the nature of the failure, the place where it has occurred, that he will not move his train until a relief engine arrives and authorising the Train Controller to allow an engine to proceed to remove the disabled train.

The Fireman must go to the nearest Control telephone and inform the Train Controller of the circumstances and the particulars on the Driver's written order.

(b) The Train Controller must then make the necessary arrangements for a relief engine, which may be permitted to enter the section under the authority indicated as follows :

Fireman of disabled train is at Crossing Loop from which the relief engine is to enter section—Driver's relief order.

Fireman of disabled train at intermediate point between Crossing Loops—Train Order.

Fireman of disabled train at Crossing Loop at opposite end of the section to that from which the relief engine is to enter—Train Order.

In the event of the Fireman being at a point between the disabled train and the Crossing Loop from which the relief engine is to proceed, the Train Controller must instruct the Fireman to stop the relief engine by means of hand signals and detonators. Instructions to the Driver of the relief engine to pick up the Fireman must be included in the Train Order.

If the Fireman has proceeded in the opposite direction to that from which a relief engine is to proceed to the disabled train, the Relief Driver must be instructed in the Train Order not to move the disabled train until the Fireman has returned and handed to him the Driver's relief order.

(c) On a Single Line Section where there are two or more track sections and it is known that a following train has entered the Single Line section in which the train is disabled, arrangements may be made for assistance to be provided by the second train, without conferring with the Train Controller.

In such circumstances, the Guard of the disabled train may instruct the Driver of the following train to draw cautiously forward. (See Regulation 74 (d)).

(d) Should it be necessary for the disabled train to be drawn or pushed back to the Crossing Loop in the rear, permission for this movement must be given by the issue of a Train Order. Before issuing the Train Order, the Train Controller must secure, at the Stop position, by means of a Blocking Jack, the Departure Signal controlling the entrance of trains to the affected section at the Crossing Loop in the rear.

(e) The Fireman when proceeding for assistance must place detonators on the Line in accordance with Regulation 239 and the Guard must similarly protect the train in the opposite direction.

(f) Orders for relief must be retained by the Driver of the relief engine until the disabled train is removed from the Section. The orders must then be cancelled by the Driver writing the word "Cancelled", time, date and his signature across the face and forwarded with a report of the circumstances to his Depot Foreman.

24. Total Obstruction—

(a) If the obstruction be caused by a landslip, flood or other cause, preventing a train in the Section from going forward, arrangements may be made for the train to be pushed back to the Crossing Loop in the rear. The Guard must protect his train in the rear in accordance with Regulation 239 and proceed to the nearest Control telephone and advise the Train Controller of the circumstances.

Subject to the following train not having entered the Section, the Train Controller must secure the Home Departure signal at the Crossing Loop in the rear at Stop by means of a Blocking Jack and dictate an order to the Guard as an authority to the Driver for the train to return to the Crossing Loop. The Guard must write out a copy of the order and arrange for it to be handed to the Driver.

(b) Should the train be derailed and the engine is not fit to run forward, the Guard must put the Driver in charge of the point of obstruction and the Driver must instruct the Guard

and Fireman to proceed to the nearest Control telephone in the rear and advance respectively and advise the Train Controller of the obstruction.

(c) If the engine or engines and leading vehicles are fit to run forward, the Driver must proceed to the Crossing Loop in advance and inform the Train Controller of the obstruction.

(d) The working of relief engines or breakdown trains to the point of obstruction on either side, will be arranged by the Train Controller. The authority for any engine or train movement to or from the obstruction will be a Train Order issued by the Train Controller.

(e) The Fireman when proceeding forward must protect the obstruction in accordance with Regulation 239 and the Guard must similarly protect in the rear.

If the derailment has caused the obstruction of an adjoining Line or Lines, the necessary steps must be taken as quickly as possible to protect all the Lines obstructed.

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