

SR.17.03.5.3.1. In an emergency, the Station Master shall operate such switches as per specific direction of the TPC.

SR.17.03.5.3.2. In the event of a fault in the overhead equipment necessitating isolation of a section in addition to the faulty one, the ATFO/OHE or an authorised person shall arrange with the TPC, to isolate the healthy section also. However if necessary he shall himself open those switches which can be operated conveniently.

SR.17.03.5.3.3.1. Should the TPC wish to have any isolator switch opened or closed he shall ask the ATFO/OHE or Station Master or any authorised person to carry out the required switching operation. The person concerned shall after carrying out the orders, lock the switch either in 'open' or 'closed' position as the case may be and inform the TPC of the action taken. He shall not part with the key until receipt of further orders from the TPC. A record of such operation shall be maintained by the person concerned.

SR.17.03.5.3.3.2. The instructions regarding the parting with the keys shall be confirmed by exchange of PNs.

SR.17.03.5.3.4. Every Station Master shall be fully aware of the location of the isolator switches provided for the control of power supply to overhead equipment at the station or near the cabin and shall be conversant with the correct method of opening and closing the same in an emergency. The Station Master who holds a certificate of competency for operating the overhead switches issued by DEE/Tr.D or his authorised Inspector, shall only be posted at such stations where these switches have been provided. The Station Masters shall be examined for their competency in operating these switches once in three years (see SR 17.09.1.3)

SR.17.03.5.4. No person other than authorised maintenance staff, their assistants when accompanying them and persons provided with special permits issued by DEE/Tr. D, shall be admitted to supply control posts except the following:

1. A person escorted by the DEE/Tr.D or by the AEE/Tr. D.
2. A doctor summoned to attend to an accident case.
3. Electrical Inspector of the Government for the railway area concerned.
4. A person required by an officer to speak from a telephone installed in the premises.
5. No person lower than Linesman in rank, shall be allowed to enter an unattended supply control post alone.

17.04. Permit-to-work on electrical equipment.—

If work is to be carried out adjacent to the electrical equipment or any other part thereof by other than the competent railway servant, such work shall be done only when and for such time as the person-in-charge of the work has obtained a written permit-to-work, duly signed and given by the railway servant authorised for the purpose by special instructions. He, in turn, shall issue the same only with the knowledge of the Traction Power Controller.

S.R.17.04.1. Permit-to-work on electrical equipment and on works adjacent thereto.

S.R.17.04.1.1. If work is to be carried out adjacent to the electrical equipment or on any part thereof by other than authorised persons, such work shall be done only when and for such time as the person-in-charge of the work is in possession of written permit-to-work. Permit-to-work shall be obtainable on application in accordance with special instructions.

S.R.17.04.1.2 'Permit-to-work' shall only be issued by such authorised persons who are specially empowered for this purpose by the Railway administration. 'Permit-to-work' shall only be issued with the knowledge of the person who is responsible for the operation of power supply on the distribution system.

S.R.17.04.1.3. A copy of every 'Permit-to-work' issued shall be retained in the personal possession of the authorised person issuing it for the period prescribed by the Railway Administration.

S.R.17.04.2. Before commencing work and for the whole time that the work is being performed on any part of the electrical equipment or adjacent thereto, that part of the electrical equipment shall be made dead and earthed, save and except as provided in these rules. A 'Permit-to-work' shall be obtained from the TPC or an authorised person in accordance with paras 5.6.10 and 11 in the prescribed form and also see para 17.

S.R.17.04.3.1. All Departments in the electrified area which require traffic blocks, power blocks or 'permit-to-work' in the danger zone of traction equipment or who require overhead line staff and/or bonding staff to be present at site for scheduled maintenance works, shall give notice sufficiently in advance to the DEE/Tr.D which in any case shall not be later than 10 hours every Monday morning, in the prescribed form showing:

1. The nature of the work and the date and time on which it is to be performed.
2. By whom the work is to be carried out.
3. Location of the work and the section of the lines to be blocked.
4. The trains between which the block is required and
5. Whether the track will be available for diesel traffic.

S.R.17.04.3.2 The requirements of all departments for traffic block/power blocks and 'permit-to-work' shall be coordinated by the office of the Sr.DEE/Tr.D in consultation with the Sr.DOM and a consolidated statement forwarded to the Sr.DOM concerned, by 12 hours on every Wednesday for inclusion in the weekly programme of traffic and power blocks.

S.R.17.04.3.3. Works of an urgent nature shall be attended to by obtaining emergency blocks and 'permit-to-work' from the TPC.

S.R.17.04.3.4. A weekly programme of work involving traffic blocks, power blocks and 'permit-to-work' shall be prepared in the office of DOM and dispatched to all concerned by Friday evening, for the week commencing on the following Monday.

Note: The procedure detailed in paras 4, 5 and 6 shall be followed for obtaining the power block and 'permit-to-work' in each case as prescribed, even though the work is included in the weekly programme.

S.R.17.04.4.1. When a power block has been sanctioned, the TPC shall issue to the SCOR a power block message (in the prescribed form) in duplicate either through a messenger or by telephone with exchange of PNs. The SCOR shall obtain confirmation from the Station Master that the section will be blocked for electric traffic. He shall then, either return one copy of the written message duly acknowledged indicating thereon the time from which the block will be given or send a phone message to the TPC giving the same information supported by a PN. The TPC shall thereafter arrange to isolate and make dead the portions of electrical equipment concerned at the time indicated by the SCOR and issue a 'Permit-to-work' thereon, as detailed in paras 5 and 6 below.

S.R.17.04.4.2. However, in case of an emergency, the TPC shall switch off the power first and then, advise the SCOR of the power block imposed and reasons for doing so.

S.R.17.04.4.3. When 'Permit-to-work' on the electrical equipment has been cancelled and the TPC has restored normal conditions, he shall cancel the power block message issued to the SCOR, either by giving a cancellation message in duplicate or by telephone with exchange of PNs.

S.R.17.04.5. Method of obtaining 'permit-to-work' in the danger zone of overhead equipment for work by authorised persons.

S.R.17.04.5.1. Except as detailed in SR.17.04.10, permit-to-work shall be obtained by authorised persons from the TPC, who shall carry out (through remote control) or order the switching operations necessary to isolate the portion of the equipment concerned. When the TPC receives confirmation that switching operations have been correctly carried out, he shall inform by telephone message with exchange of PNs, the authorised person stating clearly that the electrical equipment has been made dead. The information shall constitute a 'permit-to-work'. 'Permit-to-work' shall be issued in this manner only to authorised persons not lower in grade than a Linesman.

S.R.17.04.5.2. On receipt of 'permit-to-work' and before work is commenced; the electrical equipment specified shall be earthed as per rules in force. Each working party shall be protected by independent earths.

S.R.17.04.5.3. On completion of the work, the person who received the 'permit-to-work' shall ensure that all men and materials have been withdrawn from the electrical equipment and its vicinity. He shall then remove the earths and inform the TPC either by written memo or by a phone message supported by a PN that the work for which the permit-to-work was issued has been completed, men and materials have been withdrawn from the specified electrical equipment and the same maybe made live. Such procedure shall constitute cancellation of the 'permit-to-work'.

S.R.17.04.6. For work by other than authorised persons-

S.R.17.04.6.1. If work is to be carried out on or adjacent to any part of the electrical equipment by other than authorised persons, such work shall not commence until the 'person-in-work' card issued to him by an authorised person.

S.R.17.04.6.2. The 'Permit-to-work' shall be obtained from the TPC by an authorised person who shall earth the electrical equipment specified in charge of the work holding an acknowledgement on the other copy. A duplicate of every 'permit-to-work' card shall be retained in the personal possession of the authorised person who issued it.

S.R.17.04.6.3. On completion of the work and when all men and materials have been withdrawn from the electrical equipment and its vicinity, the person-in-charge of the working shall cancel his 'permit-to-work' card and return it to the authorised person who issued it. The authorised person shall in turn cancel the 'permit-to-work' as detailed in S.R.17.04.5.3. above.

S.R.17.04.7. If telephone communication with the TPC is interrupted, when a 'permit-to-work' is to be cancelled, the authorised person to whom the 'permit-to-work' was issued shall arrange locally to restore normal (live) conditions, the positions of electrical traction or overhead equipment specified in the 'permit-to-work' and to cancel the 'power block' if possible.

S.R.17.04.8. Whenever work has to be carried out by more than one working party, the 'permit-to-work' shall be issued by the TPC only to one authorised person who alone shall be responsible under this rule, for all work on the portion of electrical equipment, specified in the 'permit-to-work'. Any additional party or parties may work on the same portion of electrical equipment only with the permission of this authorised person who shall inform all parties of the total number of parties working on the same portion of electrical equipment. The authorised person shall cancel the 'permit-to-work' only when he is satisfied that all working parties had withdrawn all men and materials and removed the earthing from the electrical equipment. In the event of telephone communication being interrupted, the responsible person shall proceed as provided for in para 7 above.

S.R.17.04.9. The number of each 'permit-to-work' issued, shall be entered in the log book of TPC, together with the particulars and time when the equipment is made dead for the work and re-energise after completion of the work, as per information received from the authorised person concerned

S.R.17.04.10. In case of work to be done inside the electric Loco sheds, the application for 'permit-to-work' shall be made to the TFO/ATFO/Chargeman (RS) who shall arrange for the issue of the 'permit-to-work' after getting the switch of the inspection bay or the feeders opened. No intimation to the TPC is necessary and the 'permit-to-work' shall be returned for cancellation by the person-in-charge of the work to the TFO/ATFO/Chargeman (RS) before the switches are closed.

S.R.17.04.11.1. Local arrangements may be made with the Station Master, Cabin Assistant Station Master, Yard Master and others responsible for the movement of traffic, for power blocks in such sidings which do not affect the movement of trains on main running lines, loop lines, and reception and departure lines in yards. The TPC shall, however, be kept informed as to when the power block is taken and cancelled. The Station Master, Cabin Assistant Station Master, Yard Master and other persons shall also advise the SCOR of such blocks.

S.R.17.04.11.2. Local blocks shall be arranged on the forms prescribed for the purpose.

S.R.17.04.12.1. In order to prevent electric rolling stock from being admitted into a track or cross over of which the overhead equipment is made dead, or for which a 'permit-to-work' has been issued, the levers of signals and points in the signal cabins governing such movement of electric rolling stock shall be protected by means of 'power block collars'. If the points and signals are locally operated, the same should be locked and the keys be kept with the Station Master.

S.R.17.04.12.2. The SCOR on receipt of a power block message from the TPC shall repeat to all Station Masters concerned the said message indicating the time from which the block is to commence. Each Station Master shall record and acknowledge the message with a PN and the time of receipt and then block the electric traffic on the line or lines described from the time indicated and place 'Power block collars' on the appropriate levers. When lever frames or other equipment in signal cabin are controlled electrically from Station Master's office, the Station Master shall place the 'Power block collars/pins' on the slides of electric slide instruments or on the keys of electric transmitters or interlocked key boxes. The Station Master shall also ensure that 'power block collars' are placed by Cabinman/Leverman concerned on the relevant levers.

S.R.17.04.12.3. The 'Power block collars' shall not be removed until the Station Master receives message from the SCOR and acknowledges the message supported by a PN cancelling the power block. The SCOR shall not issue such a message unless he has received a written message or phone message supported by a PN from the TPC cancelling the power block.

NOTE: In all cases mentioned under paras 3, 4, 11 and 12 the Station Master must record the information in the Station Master's diary.

S.R.17.04.13. When electric locos are placed in sidings for washing, cleaning etc., the section switch for that particular siding shall be opened by the person-in-charge of washing and the keys retained by him.

S.R.17.04.14. In the event of any accidents occurring in which electric rolling stock is involved or where damage to overhead structures or equipment takes place, the railway servant who notices it shall take necessary precautions against danger of electric shock and shall inform the nearest Station Master, SCOR and TPC to take immediate action to cut off power supply, if necessary and restore the equipment as early as possible. The line shall not be re-opened for traffic until a responsible Official of electrical department inspects the site and certifies that the line is safe for the passage of trains.

S.R.17.04.15. The only authorised person to issue 'permit-to-work' is the TPC who will sign the prescribed form for DEE/Tr.D. The 'authorised person' may issue the certificate that the line is safe for passage of trains as required in para 7.

S.R.17.04.16. Responsibility for staff and equipment when at work shall always be under the charge of the senior member who shall be responsible for all work being carried out correctly in accordance with the rules prescribed and such other instructions as are specifically issued by the Railway Administration. In the case of illiterate staff working on or near electrical equipment, the circumstances of the work as affecting their safety and the safety of the electrical equipment shall be explained to them by the senior members.

S.R.17.04.16.1. When repair or adjustment to overhead equipment makes it necessary for a train to proceed cautiously, an authorised person shall be present at the site of work and shall be responsible for showing the signals prescribed in Rule 15.09 and Subsidiary Rules there under.

S.R.17.04.16.2. Before commencing work on overhead equipment or in cases of breakdown of overhead equipment, when it is necessary for a train to proceed cautiously, the TFO/OHE, responsible for such notification shall arrange for issue of Caution Orders (See S.R. 17.03.2.3).

S.R.17.04.16.3. No alteration or addition shall be made to any equipment which may infringe the standard dimensions, whether permanently or temporarily. If an infringement is unavoidable, sanction shall first be obtained from the DEE/Tr.D.

S.R.17.04.16.4. Care shall be taken to ensure that covers of tank wagons, funnel of steam cranes or such other items are not left in such a position as to foul the traction overhead equipment.

S.R.17.04.16.5.1. No steam or hand-crane shall be worked adjacent to such traction overhead equipment which is not dead and earthed. All movements of the crane jib shall be carefully controlled to avoid fouling the traction equipment. Wherever possible, the direct blast from the crane funnel to the overhead equipment and particularly to section insulators shall be avoided.

S.R.17.04.16.5.2. Except in an emergency, to work a crane adjacent to overhead equipment, 24 hours notice shall be given to the DEE/Tr.D in order to make arrangement for overhead equipment staff to standby. When possible the working of cranes shall be included in the weekly programme detailed in SR. In an emergency, the TPC shall be advised and he shall make arrangements for overhead equipment staff to standby.

S.R.17.04.16.5.3. Cranes shall not be worked adjacent to traction overhead equipment unless the overhead equipment staff is present.

S.R.17.04.16.6. Before any work is commenced on electric locomotives standing in the loco shed, stabling depots or on a station platform line, the staff shall take all precautionary measures to ensure safety. Delay or inconvenience to traffic should not interfere with the man taking reasonable precautions to protect himself.

S.R.17.04.16.7. Each man should provide for his own protection independent of every other man, except where one man is assisting another, in which case, the person in charge of the work is responsible for the proper protection of himself and his assistants.

S.R.17.04.16.8. For the protection of staff employed upon electric locos at loco sheds/stabling depots or on platform, warning boards shall be placed in a conspicuous position at the ends of the electric locos by the staff concerned before proceeding to carry out any work in or under the electric locos. These boards, painted with the legend 'not to be moved' in white on a red background, should on no account be removed, except by the staff, who placed them in position.

S.R.17.04.16.9. Every possible precaution shall be taken to protect the staff while at work, and as an extra precaution Loco Pilots are prohibited from entering any driving compartment while the 'warning boards' are in position.

S.R.17.04.16.10. Warning boards shall on no account be removed and power supplied until all precautions have been taken to ensure that all men are clear of danger.

S.R.17.04.16.11. The whole of the overhead contact system comprising of contact wire, catenary, droppers, register arms and pull-off wires shall always be considered live and men working over the electrified area shall take care to see that nothing comes in contact since danger of death results from coming in contact, directly or indirectly, with the overhead equipment.

S.R.17.04.17. Work on Electrical equipment:

S.R.17.04.17.1. Before commencing and for the whole time work is being performed on any part of the electrical equipment or adjacent thereto, that part of the electrical equipment shall be made dead and earthed save and except as in clauses 17.2 and 17.3 hereunder. Every working party shall be protected by independent earths. When it is necessary, minimum of two earths shall be employed, to the overhead equipment or transmission lines one on each side of the working party.

S.R.17.04.17.2. Except in the case of indoor high voltage electrical equipment, authorised staff may work on electrical equipment which is live or dead and not earthed subject to adequate precautions taken for the safety of such staff, the authorisation and precautions shall be prescribed by the Railway Administration.

S.R.17.04.17.3. Work may be performed by authorised staff on indoor high voltage electric equipment which is not earthed but which is isolated from the main supply of electrical energy in such a manner that it is safe to work on. The Railway Administration shall prescribe adequate precautions to cover these conditions.

S.R.17.04.17.3.1 No work on live or any unearthed indoor or outdoor equipment above 400 volts is permitted. The only occasion when maintenance staff may work on unearthed equipment, after it has been isolated, is for the purpose of taking insulation tests. On completion of tests the equipment shall be earthed, before any work is started.

S.R.17.04.17.3.2. After the feeder is made dead, it shall first be discharged by throwing an earthed chain over the conductors. The feeder line is then connected to earth by means of stranded copper cable of adequate size securely connected to earth and the conductor.

S.R.17.04.17.3.3. Interrupters or isolator switches which have been opened for the purpose of isolating electrical equipment for maintenance shall have a danger notice displayed in a prominent position on the interrupter or operating handle of the switch or on the enclosure containing isolator switch and control apparatus as well as on the corresponding switches in remote control centre.

S.R.17.04.17.3.4. Before any work is undertaken on a section of overhead equipment which is normally live or any part of the structure adjacent thereto or supporting such equipment situated at a distance of less than 2 metres from the live parts, the overhead equipment shall be made dead and earthed. A minimum of two earths shall be provided one on either side of the working party. In case, the work is spread over several sub-sectors, additional earth shall be provided close to the feeding points of supply control posts involved.

S.R.17.04.17.3.5. No work shall be attempted on insulated overlap spans, or on section insulators unless the adjoining sections of overhead equipment on either side are made dead and earthed. In the case of a sectioning post, the isolator switch, the bridging or section interrupters, bridging overlap span shall be closed.

S.R.17.04.18. Works on roofs of rolling stock:

No person shall climb on to the top of engines or on to the roof of carriages or wagons when those vehicles are located beneath the overhead equipment except when the overhead equipment is dead and earthed.

S.R.17.04.18.1. Work on pantographs and roof of rolling stock shall normally be carried out on special sidings where switches are provided for making such sidings dead and earthed.

S.R.17.04.18.2. Traction Engine Examiner or other authorised person in-charge shall be responsible for making dead the overhead equipment over the track of inspection lines in loco sheds and stabling sidings before permitting the work to be done on the roof of electric rolling stock. The overhead equipment over these tracks shall not be energised except by the authorised person in-charge, who shall be responsible for every precaution being taken to ensure that everything is in order and all staff are cleared off the roofs and live parts, before energizing the equipment.

S.R.17.04.18.3.1. At stations and yards, an authorised person shall arrange to make dead and earth the overhead equipment and a 'permit-to-work' card shall be obtained by the staff concerned before the work on the roofs of rolling stock or engines is commenced. On completion of work, the card shall be returned to the authorised person for cancellation. The authorised person shall then satisfy himself that everything is in order and that all staff are cleared off the roofs and live parts before energising the equipment.

S.R.17.04.18.3.2. Prescribed working rules for isolating and making dead the sections of overhead equipment for watering carriages, shall be followed at watering stations.

S.R.17.04.18.4. The SWR issued to each station, loco shed etc., shall specify the switches the operation of which will make a section dead or live.

S.R.17.04.19. Register of Message:-

All messages relating to operation of switches, issue of 'permit-to-work' and other important communications shall be recorded in a register by both the sender and the receiver together with the time when sent and the time when received.

S.R.17.04.19.1 All messages relating to operation of switches and issue of 'permit-to-work' shall be confirmed by PNs.

S.R.17.04.19.2 All messages together with the PNs issued and received shall be recorded in the books specially maintained for the purpose.

S.R.17.04.20. Emergency telephone circuit:

S.R.17.04.20.1. Functions-

This circuit is provided to facilitate the train crew/ traction maintenance gangs to get in touch with the TPC with the least possible delay, especially during emergencies/accidents since due to replacement of aerial lines by underground cables, it will no longer be possible to hook a portable telephone on to the control line. This circuit will be operated by the TPC and is located in the remote control office.

S.R.17.04.20.2. Location:

Emergency socket boxes are provided along the track at an interval of 900 metres generally. Portable emergency telephones are given to maintenance gangs and train crew. These telephones can be plugged into the emergency socket boxes to enable the man on the spot to communicate with the TPC. Sockets for emergency telephones are also provided near the OHE isolating switches, sub-sectioning and sectioning posts, grid stations and feeding posts.

17.05. Warning to staff and public.—

- (1) All electrical equipment shall be regarded as being live at all times and consequently dangerous to human life, save and except in cases, where the electrical equipment has been specially made dead in accordance with special instructions. Caution notices shall be prominently fixed near all vulnerable places to warn staff and public to exercise due caution.**