## FORM IV

## Forms of Inspection Report

**[See sub-regulation (3) of regulation (32)]**

## (Electrical Installations in Mine)

Name of Regional office of Electrical Inspectorate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of Inspection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of last inspection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name of the Inspecting Office: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Name of the Mine:
2. Name of the Owner:
3. Name of the Agent:
4. Name of the Mine Manager:
5. Name of the Colliery Engineer:
6. Name of the Safety Officer
7. Name of the designated Electrical Safety Officer:
8. Name of the Electrical Supervisor:
9. Name of the workman Inspector (Electrical) :
10. Name of the Engineer (concerned Section) :
11. Name of the working seam:
12. Working district Inspected:
13. Name of the persons accompanied during inspection:
14. Voltage and system of supply:
    1. Volts
    2. No. of Phases
    3. AC/DC
15. Particulars of the installations/ apparatus installed and their location as per mine plan:
16. Illumination level:
17. Percentage of methane/other explosive gas:
18. Dry bulb temperature, wet bulb temperature in case of underground mine:
19. Velocity/speed of air in case of underground mine:
20. Particulars of the inspection fee: Rs. \_\_\_\_\_\_\_\_ Challan No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_
21. General conditions of the installation:

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| **Sl.**  **No.** | **Regulation No.** | **Requirements** | **Report** |
| 1. | Regulation 98 | On or before the first day of February in every year, notice in the form set out in Schedule IX or Schedule X whichever is applicable is sent. | Yes/No |
| 2. | Regulation 99 | The plans specified under this regulation are kept in the office of  the mine manager and available to the Inspector or inspector of mines. | Yes/No |
| 3. | Regulation 100 | (i) Whether adequate illumination by electricity without causing glare and strain has be provided in the mines? | Yes/No Satisfactory/  Not satisfactory |
| (ii) Whether efficient means of communication is provided between the point where the switchgear under sub- regulation (1) Regulation 107 is erected, the shaft bottom and other distributing centers in the mine. | Yes/No  Satisfactory/ Not Satisfactory |
| (iii) Whether fire extinguishing appliances of adequate capacity and of an approved type are installed and properly maintained in every place containing apparatus, other than cables, telecommunication and signalling apparatus. | Yes/No Satisfactory/  Not Satisfactory |
| (iv) Is minimum clearance above ground of the lowest conductor of overhead lines or overhead cables where dumpers or trackless vehicles are being operated, not less than twelve metre in height. | Yes/No |
| 4. | Regulation 101 | (i) Are transformers and switchgear placed in a separate room, compartment or box where necessary to prevent danger of mechanical damage? | Yes/No |
| (ii) Is the room, compartment or box substantially constructed and kept dry and illuminated? | Yes/No |
| (iii) Is efficient ventilation provided for all apparatus installed therein? | Yes/No |
| 5. | Regulation 102 | (i) Is earthing carried out by connection to an earthing system at the surface of the mine and in a manner approved by Electrical Inspector of mines? | Yes/No |
| (ii) Are all metallic sheaths, coverings, handles, joint boxes, switchgear frames, instrument covers, switch and fuse covers of boxes, all lamp holders, unless efficiently protected by an insulated covering made of fire resisting material, and the frames and bedplates of generators, transformers and motors, including portable motors, earthed by connection to an earthing system in the manner specified in regulation 102? | Yes/No Satisfactory/ Not satisfactory |
| (iii) Are all conductors, of an earthing system having conductivity, at all parts and all joints, at least equal to fifty per cent of that of the largest conductor used solely to supply the apparatus? | Yes/No |
| 6. | Regulation 116 | Whether the neutral or mid-point is earthed by connection to the earthing system in the manner specified in regulation 102. | Yes/No |
| 7. | Regulation103 | (i) Is automatically disconnection of supply to any part of the system, where a fault, including an earth fault, occurs and is the fault current limited to the specified values, by employing suitably designed, restricted neutral system of power supply? | Yes/No |
| (ii) Whether the operation of the switchgear and the relays are recorded daily at the generating station, substation or switch station in a register kept for the purpose? | Yes/No |
| (iii) Whether the effectiveness of the switchgear and the protective system being always kept and maintained in working order? | Yes/No |
| (iv) Whether the switchgear and the protective system checked once every three months and the result thereof recorded in a separate register kept for the purpose? | Yes/No |
| 8. | Regulation 104 | (i) Is electricity transmitted into a mine at a voltage exceeding 11000 V and used therein at a voltage exceeding 6600 V? | Yes/No |
| (ii) Is the voltage of hand-held portable apparatus used, not exceeding 125 V? | Yes/No Applicable/ Not  applicable |
| (iii) In belowground mines, whether the lighting system has a mid or neutral point connected with earth and the voltage not exceeds 125 V between phases is used? | Yes/No Applicable/ Not  applicable |
| (iv) On the surface of a mine or in an open cast mine, has the neutral or the midpoint of the lighting system is connected with earth and the voltage between the phases not exceeds 250 V? | Yes/No |
| (v) Is the voltage of portable hand-lamps used in underground working of mine or oil-fields not exceeding 30 V? | Yes/No  Applicable/ Not applicable |
| 9. | Regulation 105 | Where electricity is transformed, has suitable provision made to guard against danger by reason of the lower voltage apparatus becoming accidentally charged above its normal voltage by leakage from or contact with the higher voltage apparatus. | Yes/No |
| 10. | Regulation 107 | (i) Whether properly constructed switchgear for disconnecting the supply of electricity provided at a point approved by Electrical Inspector of mines? | Yes/No |
| (ii) When any cable or overhead line supplying electricity from the aforesaid switchgear is live, whether a person designated to operate the said switchgears is available within easy reach thereof? | Yes/No |
| (iii) Whether the main mechanical ventilator operated by electricity interlocked with the switchgear so as to automatically disconnect the power supply in the event of stoppage of main mechanical ventilator? | Yes/No Applicable/ Not  applicable |
| (iv) Whether every motor is controlled by switchgear, arranged so as to disconnect the supply from the motor and from all apparatus connected thereto and whether such switchgear be so placed to easily operate by the person designated to operate the motor? | Yes/No |
| (v) Is the switchgear so placed, disconnects the supply automatically, in the event of conditions of over-current, over-voltage and single phasing? | Yes/No |
| (vi) Is the Auxiliary fan interlocked with the switchgear controlling power supply to the in bye face equipment of below ground coal mine for automatic disconnection of power supply in the event of the stoppage of the auxiliary fan? | Yes/No Applicable/ Not applicable |
| 11. | Regulation 108 | (i) Whether all cables are covered with insulating material and efficiently protected from mechanical damage and supported at sufficiently frequent intervals and in such a manner as to prevent damage to such cables? | Yes/No  Satisfactory/Not satisfactory |
| (ii) Whether all cables are protected by a metallic covering and  which contain all the conductors of a circuit and the sheath of metal-sheathed cables and the metallic armouring of armoured cables is of a thickness not less than that recommended in the relevant Standard? | Yes/No  Satisfactory/Not |
| (iii) Is the metallic covering of every cable electrically and mechanically continuous throughout, earthed by a connection to the earthing system of conductivity specified therein and efficiently protected against corrosion? | Yes/No  Satisfactory/Not satisfactory |
| (iv) Whether the metallic covering of every cable is having a conductivity at all parts and at all joints at least equal to fifty per cent of the conductivity of the largest conductor enclosed by the said metallic covering? | Yes/No  Satisfactory/Not satisfactory |
| (v) Are the cables and conductors where connected to motors, transformers, switchgear and other apparatus, installed so that they are mechanically protected by securely attaching the metallic covering to the apparatus and the insulating material at each cable end is efficiently sealed so as to prevent the diminution of its insulating properties? | Yes/No  Satisfactory/Not satisfactory |
| (vi) Whether properly constructed and certified glands or bushes are used to prevent abrasion or to secure gas- tightness? | Yes/No |
| 12. | Regulation 109 | (i) Whether flexible cables used for portable or transportable apparatus are covered with insulating material which shall be efficiently protected from mechanical injury? | Yes/No |
| (ii) Is the flexible metallic covering of a cable, used by itself to form an earth conductor for such apparatus without an earth conductor? | Yes/No |
| (iii) Whether every flexible cable intended for use with portable or transportable apparatus connected to the system and to such apparatus by properly constructed connectors? | Yes/No |
| (iv) At every point where flexible cables are joined to main cables, is a circuit breaker provided which is capable of automatically disconnecting the supply from such flexible cables? | Yes/No |
| (v) Is every flexible cable attached to a portable or transportable machine examined periodically by the designated person? | Yes/No |
| (vi) Whether flexible cable exceeding in specified length being used with any portable or transportable? | Yes/No |
| (vii) Are flexible cables used with apparatus other than portable or transportable apparatus? | Yes/No |
| 13. | Regulation 110 | Whether all portable and transportable machines operate on remote control from the concerned switchgear with relevant provision? | Yes/No |
| 14. | Regulation 111 | (i) Whether all apparatus maintained reasonably free from dust, dirt and moisture, and kept clear of obstruction? | Yes/No  Satisfactory/ Not satisfactory |
| 1. Whether the following notices in Hindi and local language of the district, so designed and protected as to be easily legible at all times, be exhibited at the following places, namely: –    * where electrical apparatus is in use, a notice forbidding undesignated persons to operate or otherwise interfere with such apparatus;    * in the interior or at the surface of the mine where a telephone or other means of communication is provided, a notice giving full instructions to person, at the surface of the mine, designated to effect the disconnection of the supply of electricity to the mine? | Yes/No Yes/No |
| (iii) Whether all apparatus, including portable and transportable apparatus, operated only by those persons who are designated for the purpose? | Yes/No |
| (iv) Where a plug-and-socket-coupling other than of bolted type is used with flexible cables, whether an electrical inter-lock or other approved device provided to prevent the opening of the coupling while the conductors are live? | Yes/No |
| 15. | Regulation 112 | Give report on the compliance of provisions of this regulation as the case maybe. | Satisfactory/Not satisfactory |
| 16. | Regulation 114 | (i) Whether adequate precautions are taken to prevent signal and telephone wires coming into contact with other cables and apparatus? | Yes/No |
| (ii) Is the voltage used in any one circuit not exceeding 30 V? | Yes/No |
| 17. | Regulation 115 | (i) Whether haulage by electric locomotives on the overhead trolley-wire system, at voltage not exceeding 650V? | Yes/No |
| (ii) Whether haulage by storage battery locomotives used with the prior consent in writing of the Electrical Inspector of mines? | Yes/No |
| 18. | Regulation 117 | (i) Whether electrical supervisors, as directed by Electrical Inspector of mines are appointed in writing by the owner, agent or manager of a mine or by the agent or the owner, of one or more wells in an oil-field to supervise the installation? | Yes/No |
| (ii) Whether electricians as directed by the Electrical Inspector of mines, are appointed in writing by the owner, agent or manager of a mine or by the agent or the owner, of one or more wells in an oil-field for compliance with the duties specified in this regulation? | Yes/No |
| (iii) Whether persons appointed to operate, supervise, examine or adjust any apparatus are competent to undertake the work which he is required to carry out as directed by the Engineer? | Yes/No  Satisfactory/Not satisfactory |
| (iv) Whether the electrical supervisor is maintaining log-book made up of the daily log sheets prepared in the form set out in Schedule-XI? | Yes/No |
| 19. | Regulation 118 | Whether the persons engaged for operation and maintenance of electrical installations have undergone training meant for the particular mining installations | Yes/No  Satisfactory/Not satisfactory |

Date:

Signature of the Inspecting Officer

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Designation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_