



सत्यमेव जयते

भारतसरकार / Government of India

श्रमएवंरोजगारमंत्रालय/ Ministry of Labour & Employment

खानसुरक्षामहानिदेशालय / Directorate General of Mines Safety



Dated: 23/08/2024

DGMS Circular No. 05 of 2024

**To
The Owner/Agent/Manager of all Coal/Metal/Oil/Gas Mines**

Subject: Guidelines for determining adequacy of Electrical supervisors and Electricians on duty in every mine or oilfields while electricity is being used. [Sub-regulation (1) and (3) of regulation (117) of CEAR - 2023]

Electrical supervisors play an important role within a mining operation. They are responsible not only for ensuring electrical safety but also for adhering to regulatory obligations. Consequently, an electrical supervisor should be able to understand and apply relevant legislation, standards, codes of practice, and guidelines.

According to sub-regulation (1) and sub-regulation (3) of regulation 117 of the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023, significant updates were introduced over the previous CEAR 2010 regulations, specifically regarding the adequacy of electrical supervisors and electricians in mines and oilfields. The updates were enacted in the newly notified Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2023, and Directorate General of Mines Safety was bestowed with the power of formulating the guidelines regarding this.

To develop the guidelines, numerous meetings were held with stakeholders, including experts from the coal, metal, and oil mining sectors. Their input was incorporated into the framework. Key considerations for determining the adequacy of supervisors and electricians included:

- Establishing appropriate ratios of supervisors and electricians to the area covered and operational shifts/hours.
- Ensuring the presence of adequately trained personnel during emergencies.
- The volume of deployment of electrically operated HEMM along with the total installed capacity.

In compliance with sub-regulation (1) of regulation 117 of the Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2023, the following guidelines on the adequacy of electrical supervisors and electricians in mines and oilfields have been established.

I) Adequacy of Electrical Supervisors

Adequate number of Electrical supervisors shall be appointed in a mine for conducting the operation and maintenance works of electrically operated machinery/ equipment/ apparatus in accordance with the provisions of The Central Electricity authority (Measures relating to Safety and Electric supply) Regulations,2023.

1. In case of belowground mine having conventional and semi-mechanized workings, at least one electrical supervisor shall be appointed in each working district and associated electrical apparatus/substations in each shift of operation/ maintenance.
2. In case of belowground mechanized mines consisting of long wall machinery, continuous miners, Blasting Gallery or alike equipment, at least two electrical supervisors shall be appointed for each working district/panel and associated electrical apparatus/substations in each shift of operation/ maintenance.
3. In opencast mine consisting of Dragline, Bucket wheel excavators, High-capacity shovels, Surface Miner or any alike electrical equipment; at least one electrical supervisor shall be appointed for each such electrical machinery/ equipment inclusive of their switchgear based on size & type of equipment in each shift of operation/ maintenance.

Provided that where the aggregate capacity of machinery is less than 2MVA, the HEMM and associated switchgear can be grouped to bring under one supervisor.

4. In opencast mine consisting of HEMM such as Electrically operated Shovels & Drilling Machines, associated switchgear, distribution lines, substations etc., at least one electrical supervisor shall be appointed in each shift of operation/maintenance for maximum up to six numbers of such electrically operated machinery/ equipment.
5. In case of opencast mines consisting of small and conventional electrical machinery such as substation equipment, distribution lines, production machinery, pump installations or any alike equipment, one electrical supervisor shall be appointed in each shift of operation/maintenance.
6. In case of oil/ gas/ coal/ Renewable energy based captive power plants with associated substations which are supplying electricity to mine installations; one electrical supervisor in general shift of operation/ maintenance shall be appointed.

Provided that where the aggregate capacity of power plant is more than 10 MW, one electrical supervisor in each shift of operation/ maintenance shall be appointed.

7. In case of oil fields, where electrically operated drilling rigs inclusive of generators, substation apparatus and other electrical machinery are in use, one electrical supervisor in each shift of operation/ maintenance per rig shall be appointed.
8. In oil fields of production installations, group gathering stations along with associated wells or any alike installations where substations and electrically operated equipment are in use, at least one electrical supervisor in each shift of operation/ maintenance shall be appointed.

9. For the surface installations of a mine consisting of substations, switch stations, distribution lines and other electrically operated machinery/ equipment, at least one electrical supervisor in each shift shall be appointed for operation/maintenance.

Provided that where the aggregated installed capacity of substations is more than 20 MVA, one additional electrical supervisor shall be appointed in each shift of operation/maintenance.

Provided further that where the mine having ancillary installations like beneficiation plant, Railway sidings, coal handling plant, and other alike process equipment's one additional electrical supervisor shall be appointed in each shift for installations of aggregate load exceeding every 2MW.

10. All the appointed Electrical supervisors shall be designated specifying area of jurisdiction by the competent authority.
11. In special cases, the electrical inspector of mines may give relaxation for the appointment of number of electrical supervisors if he is satisfied that proper supervision can be exercised with such reduced numbers as he may deem fit.

II) Adequacy of Electricians.

Adequate number of electricians shall be appointed in a mine for conducting the operation and maintenance works of electrically operated machinery/ equipment/ apparatus in accordance with the provisions of The Central Electricity authority (Measures relating to Safety and Electric supply) Regulations, 2023.

1. In case of belowground mine having conventional and semi-mechanized workings, at least two electricians shall be appointed for each working district in each shift of operation/ maintenance.
2. In case of belowground mechanized mines consisting of Long wall machinery, continuous miners, Blasting Gallery or alike equipment, at least four electricians shall be appointed for each working district/panel and associated electrical apparatus/substations in each shift of operation/ maintenance.
3. In opencast mine consisting of Dragline, Bucket wheel excavators, High-capacity shovels or any alike equipment, at least two electricians shall be appointed for each such electrical machinery/ equipment inclusive of their switchgear based on size & type of equipment in each shift of operation/ maintenance.

Provided that where the aggregate capacity of machinery is less than 1MVA, the HEMM and associated switchgear can be grouped to bring under one electrician.

4. In opencast mine consisting of HEMM such as Electrically operated Shovels & Drilling Machines, associated switchgear, distribution lines, substations etc., at least one electrician shall be appointed in each shift of operation/ maintenance for maximum up to two numbers of such electrically operated machinery/ equipment.
5. In case of opencast mines consisting of small and conventional electrical machinery such as substation equipment, distribution lines, production machinery, pump installations or any alike equipment are in use, at least one electrician shall be

appointed in each shift of operation/maintenance and additional electrician shall be appointed based on the type and size of installations and the area to be covered.

6. In the case of oil/ gas/ coal/ renewable energy based captive power plants with associated substations which are supplying electricity to mine installations, at least one electrician in each shift of operation/ maintenance shall be appointed.

Provided that where the aggregate capacity of power plant is more than 10 MW, one additional electrician in each shift of operation/ maintenance shall be appointed.

7. In the case of oil mines, where electrically operated drilling rigs/workover rigs inclusive of generators, substation apparatus and other electrical machinery are in use, one electrician in each shift of operation/ maintenance per rig shall be appointed.
8. In oil fields of production installations, group gathering stations, well or any alike installations, where substations and electrically operated equipment are in use, at least one electrician in each shift of operation/ maintenance shall be appointed. Where the distance between such installations exceeds 1KM, an additional electrician shall be appointed based on the type and size of installations and the area to be covered.
9. For the surface installations of a mine consisting of substations, switch stations, distribution lines and other electrically operated machinery/ equipment, at least two electricians in each shift shall be appointed for operation/ maintenance.

Provided that where the aggregated capacity of substations is more than 20MVA an additional electrician shall be appointed in each shift of operation/ maintenance.

Provided further that where the mine having ancillary installations like beneficiation plant, Railway sidings, coal handling plant, and other alike process equipment's one additional electrician shall be appointed in each shift for installations of aggregate load exceeding every 1MW.

Therefore, in the interest of safety, the owner, agent, and manager of all mines and oilfields where electricity is being used are advised to strictly adhere to the above guidelines for appointing electrical supervisors and electricians.


23.08.2024

Director General of Mines Safety