To

The owners, Agent and Manager
Of All Coal & Metalliferous mines

Sub: Safety features to be incorporated in Tippers / Trucks.

The most common mode of transport of coal/ore and materials in opencast mines whether big or small size is trucks or tippers and their use is on increase. Unfortunately, the incidence of accidents due to such vehicle is alarmingly high in opencast mines.

The analyses of accidents revealed that majority of them have occurred due to:

- Collision either due to Head on or head to tail
- Failure of brakes.
- Over speeding or rash driving by operators
- While reversing
- Fire
- Driving of the vehicle while body still raised.
- Short circuit due to problems in Auto-electrical system

A model code of practice was circulated vide circular no 11 of 1973 and was required to be enforced by the management. Mine managements have since been further reminded by various circulars.

The matter has since been again examined in this Directorate. It has been decided to ensure that in every mine where tipping trucks are being engaged either in opencast workings or on surface operations, the following safety features shall be incorporated so that the risk of accidents are minimized. These features are applicable to all types / model/ capacity of truck/ tippers.
Safety features required in tippers/ trucks

1) Cabin Guard Extension:  
   Canopy shall cover the operator’s cabin fully.

2) Exhaust/ Retard Brake:  
   Device to control the speed of truck while operating down the gradient. Refer DGMS (Tech) circular 02 of 2004.

3) Propeller shaft guard:  
   Propeller shaft guard as specified in DGMS (Tech) circular 10 of 1999.

4) Tail gate protection:  
   Protection of operator against collision either by head on or head to tail.

5) Limiting speed device:  
   Enable mine management to decide the maximum speed of vehicle to be operated in mine. The device may be Electronic or mechanical type speed governors.

6) Audio-visual alarm while reversing:  
   The audio-visual alarm provided should confirm to DGMS (Tech.) Circular No 01 of 2010.

7) Provision of two brakes:  
   One of brakes shall be fail safe. For details refer DGMS circular 09 of 1999.

8) Body lifting position locking arrangement:  
   A hooter along with an indication is provided to indicate the body is still in lifted position.

9) Fire suppression System  
   Refer DGMS circular 10 of 2004. The fire suppression system shall be a factory fitment and of approved type from Directorate.

10) Blind spot mirror  
    Operator can have view in blind spot area.

11) Fire resistant hoses at hot zone:  
    To decrease chance of fire

12) Electric Wires and sleeves are to be of fire resistant quality:  
    To decrease chance of fire

13) Turbo Charge Guard and exhaust tube coated with heat insulated paint:  
    To decrease chance of fire
14) **Battery Cut off Switch:**
   To decrease chance of fire

15) **Retro reflective reflectors on all sides:**
   For visibility of truck during night

16) **Seat belt reminder**
   To alert operator for using the seat belt

17) **Proximity warning device**
   To alert operator when approaching after vehicles / obstruction.

18) **Rear Vision System**
   To assist operator during reversing. Refer DG Circular No. 12 of 2009

19) **Auto dipping System**
   To reduce glaring on eyes of operator during night operation.

20) **Load Indicator and Recorder**
   Enables management to detect and prevent over loading

The management shall ensure that the safety features listed above are provided in trucks/ tippers and shall be a part of **notice inviting tender** for new procurement and action shall be taken to provide the safety features in existing trucks within a specified time frame but not later than **one year** from the date of issue of this circular. The same features shall be included in **contractor’s agreement** also while out-sourcing so that the trucks/ tippers are provided with required safety features before putting into operation in the mines.

In the interest of safety all the Owners, Agent and Managers of the mine in which such transport vehicles are being used are requested to comply with the aforesaid safety requirement so that the accidents due to this cause are minimized and eliminated.

**Director General of Mines Safety**