



Govt. of India

Ministry of Labour and Employment

Directorate General of Mines Safety

• Dhanbad – 826 001



No. DGMS (Tech.)/ (S&T)-Circular No. 1/ 697 Dhanbad, Dated the 14th August, 2008.

To:

The Owner, Agent & Manager of Coal and Oil Mines

Sub: **Fire Suppression and Control System to be used in Mines.**

Sir,

As we all are aware that Underground or surface fires, spontaneous heating or combustion in coal Mines as well as fires in machinery, plants and other installations pose not only serious threats to the life and property of the mines but also disrupts the normal operation of the mine resulting in immense loss to the organization. Adequate statutory provisions regarding precautions against spontaneous heating and fires have been made in the Coal Mines Regulations, 1957, Oil Mines Regulations 1984 including the Mines Rescue Rules, 1985.

Based on various accidents and dangerous occurrences in mines both belowground as well as on surface, a number of technical circulars have been issued from this Directorate to guard against dangers due to spontaneous heating and fire. During the recent past, the use of heavy earth moving machineries (HEMMs), in large numbers and capacities, for excavating, loading and transport of minerals including coal has exponentially increased resulting in increase in number of accidents due to fires in HEMMs in opencast mines. Various types of fire fighting arrangements and equipments are being used in mines in accordance with the provisions of regulations.

The fire fighting technologies and fire suppression systems have advanced further which are more fast and effective to deal with fires either on surface or belowground including heavy earth moving machinery. A few of such technology is backpacked and handheld High Pressure Water Mist cum CAFs based fire fighting system which is applicable to quench not only oil fires but even electrical fires upto 36 KV line. Automatic Fire Detection and suppression system based on Fall of Pressure principle of detection and actuation is also a fail safe system. Similarly, Nitrogen mixed aqueous foam at pressure is applicable to quench both active and passive fires belowground as well as on surface. Similar technologies are being used for various purposes.

The use of improved diesel engines with efficient and effective fuel injection system integrated with modern electronic or electro mechanical control systems in the vehicles and also different types of motors used as drives in machinery and plants have made the system more complex. In order to detect fire at initial stages, various techniques of automatic fire detection and suppression system have been developed and being used in the mines, machinery and plants. However the proper functioning of such fire detection and suppression system is not ensured due to which a number of accidents have been reported resulting in loss of human lives and property. A number of circulars have also been issued from this Directorate to provide automatic fire detection and suppression system in every earth moving machinery and plants. This subject was also deliberated and discussed during 8th and 9th Conferences on Safety in Mines. However the compliance has been reported to be not encouraging.

It has also been reported that a number of **toxic and non biodegradable** chemicals are being used as ingredients in the fire fighting and suppression systems by various companies which are not only dangerous to human lives but also harmful to soil, water, flora and fauna in and around the mining areas.

In view of the above, it is required that the use of fire fighting and suppression systems should be checked and controlled before being allowed to be used in the mines, Oil and Gas Fields.

It is, therefore decided that all the fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface and belowground including oil and gas mines/fields should be of a type and make approved in writing from this Directorate.

A Notification No. DGMS/S&T/FFS/696 dated 14th August 2008 in this regard has been forwarded to be published in the Gazette of India and the subject matter thereof is reproduced below for information and taking necessary actions to comply with the requirement.

“In exercise of the power conferred on the Chief Inspector of Mines also designated as Director General of Mines Safety under Sub-regulation (3) of Regulation of 181 of the Coal Mines Regulation, 1957 as well as sub regulation (1) of regulation 73 of the Oil Mines Regulations 1984, I hereby declare 1st November, 2008 as the date from which all types of fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems in mines both on surface as well as belowground including oil and gas mines/fields, will be of such type, standard and make as approved by me by a general or special order in writing.”

You are being informed in advance to take necessary steps in this regard and requested to ensure that it is implemented and complied with.

Yours faithfully,

Sd/-

(M. M. Sharma)

Director General of Mines Safety