

CRISIS MANAGEMENT PLAN FOR DEALING DISASTERS IN MINES OF BCCL

Preliminary

1. This Crisis Management Plan shall be also called Emergency Organisation Plan in compliance to Regulation 199A of Coal Mines Regulation 1957 under Mines Act 1952.
2. This Crisis Management Plan may also be called Disaster Management Plan of BCCL.
3. This Crisis Management Plan shall extend to whole of BCCL.
4. This Crisis Management Plan shall apply to all coal mines of BCCL under different areas.
5. **Definition** - In these regulations (Coal Mines Regulation 1957), unless there is anything repugnant in the subject or context –
 - (i) “Act” means the Mines Act, 1952;
 - (ii) “agent”, when used in relation to a mine, means every person, whether appointed as such or not, who, acting or purporting to act on behalf of the owner, takes part in the management, control, supervision or direction of the mine or of any part thereof;
 - (iii) “approved safety lamp” and “approved electric torch” mean respectively, a safety lamp or an electric torch, manufactured by such firm and of such type as the Chief Inspector may from time to time specify by notification in the Official Gazette;
 - (iv) “Auxiliary fan” means a forcing fan or an exhausting fan used belowground wholly or mainly for ventilating one or more faces forming part of a ventilating district;
 - (v) “Banksman” means a person appointed to superintend the lowering and raising of persons, tools and materials and to transmit signals at the top of a shaft or incline;
 - (vi) “Committee” means a committee appointed under Crisis Management Plan of BCCL;
 - (vii) “Competent person” in relation to any work or any machinery, plant or equipment means a person who has attained the age of 20 years and who has been duly appointed in writing by manager as a person competent to supervise or perform that work, or to supervise the operation of that machinery, plant or equipment, and who is responsible for the duties assigned to him, and includes a shotfirer;
 - (viii) “District Magistrate” in relation to any mine, means the District Magistrate or the Deputy Commissioner, as the case may be, who is vested with the executive powers of maintaining law and order in the revenue district in which the mine situated:

Provided that in the case of a mine which is situated partly in one district and partly in another, the District Magistrate for the purposes of these regulations shall be the District Magistrate authorised in this behalf by the Central Government;

- (ix) “Disaster” means an accident causing loss of life of more than 9 persons;
- (x) “flame proof apparatus” means an apparatus that can withstand without injury any explosion of the inflammable gas that may occur within it and can prevent the transmission of flame such as will ignite the inflammable gas which may be present in the surrounding atmosphere;
- (xi) “gas” includes fume or vapour;
- (xii) “gassy seam of the first degree” means a coal seam or part thereof lying within the precincts of a mine not being an open cast working whether or not inflammable gas is actually detected in the general body of the air at any place in its workings below ground, or when the percentage of the inflammable gas if and when detected, in such general

body of air does not exceed 0.1 and the rate of emission of such gas does not exceed 1 (one) cubic metre per tonne of coal produced;

- (xiii) “gassy seams of the second degree” means coal seams or part thereof lying within the precincts of a mine not being an open cast working in which the percentage of inflammable gas in the general body of air at any place in the workings of the seam is more than 0.1 or the rate of emission of inflammable gas per tonne of coal produced exceeds 1 (one) cubic metre but does not exceed 10 (ten) cubic metres;
- (xiv) “gassy seams of the third degree” means of coal seam or part thereof lying within the precincts of a mine not being an open cast workings in which the rate of emission of inflammable gas per tonne of coal produced exceeds 10 (ten) cubic metres;
- (xv) “Incline” means an inclined passage or road either on the surface or below ground;
- (xvi) “Inspector” means an Inspector of Mines appointed under Mines Act 1952, and includes a District Magistrate when exercising any power or performing any duty of an Inspector which is empowered by this Act to exercise or perform;
- (xvii) “mine” means any excavation where any operation for the purpose of searching for or obtaining minerals has been or is being carried on and includes –
 - (i) all borings, bore holes, oil wells and accessory crude conditioning plants, including the pipe conveying mineral oil within the oilfields;
 - (ii) all shafts, in or adjacent to and belonging to a mine, whether in the course of being sunk or not;
 - (iii) all levels and inclined planes in the course of being driven;
 - (iv) all opencast workings;
 - (v) all conveyors or aerial ropeways provided for the bringing into or removal from a mine of minerals or other articles or for the removal of refuse therefrom;
 - (vi) all adits, levels, planes, machinery works, railways, tramways and sidings in or adjacent to and belonging to a mine;
 - (vii) all protective works being carried out in or adjacent to a mine;
 - (viii) all workshop and store situated within the precincts of a mine and the same management and used primarily for the purposes connected with that mine or a number of mines under the same management;
 - (ix) all power stations, transformer sub-stations converter stations, rectifier stations and accumulator storage stations for supplying electricity solely or mainly for the purpose of working the mine or a number of mines under the same management;
 - (x) any premises for the time being used for depositing sand or other material for use in a mine or for depositing refuse from a mine or in which any operations in connection with such and refuse or other material is being carried on, being premises exclusively occupied by the owner of the mine;
 - (xi) any premises in or adjacent to and belonging to a mine or in which any process ancillary to the getting, dressing or operation for sale of minerals or of coke is being carried on;
 - (xviii) “Manager” includes Mine Superintendent who is appointed by the owner or agent of a mine under section 17 of the Mines Act and as such, responsible for the control, management, supervision and direction of a mine;

- (xix) "Official" means a person appointed in writing by the owner, agent or manager to perform duties or supervision in a mine or part thereof and includes an under manager or assistant manager, a ventilation officer, a safety officer, a sampling incharge, dust incharge, an overman, a sirdar, an engineer and a surveyor;
- (xx) "Onsetter" means a person appointed to superintend the raising and lowering of persons, tools and materials and to transmit signals at any inset or shaft bottom;
- (xxi) "Open cast working" means a quarry, that is to say an excavation where any operation for the purpose of searching for or obtaining minerals has been or is being carried on, not being a shaft or an excavation which extends below superjacent ground.
- (xxii) "owner" when used, in relation to a mine, means any person who is the immediate proprietor or lessee or occupier of the mine or of any part thereof and in the case of a mine the business whereof is being carried on by liquidator or receiver, such liquidator or receiver but does not include a person who merely receives a royalty rent or fine from the mine, subject to any lease grant or license for the working thereof, or is merely the owner of the soil and not interested in the minerals of the mine; but (any contractor or sub lessee for the working of a mine or any part thereof shall be subject to this Act in like manner as if he were an owner, but not so as to exempt the owner from any liability);
- (xxiii) "Overman" means a person possessing a Manager's or Overman's Certificate, who is appointed by the manager in writing, under any designated whatsoever, to perform the duties of supervision of control in a mine or part thereof, and is as such superior to a sirdar;
- (xxiv) "reportable injury" means any injury other than a serious bodily injury which involves, or in all probability will involve, the enforced absence of the injured persons from work for a period of seventy-two hours or more.
- (xxv) "serious bodily injury" means any injury which involves; or in probability will involve the permanent loss of any part or section of a body or the use of any part or section of a body, or the permanent loss of or injury to the sight or hearing or any permanent physical incapacity or the fracture of any bone or one or more joints or bones of any phalanges of hand or foot.]
- (xxvi) "Shaft" means a way or opening leading from the surface to workings below ground or from one part of the workings below ground to another, in which a cage or other means of conveyance can travel freely suspended, with or without the use of guides;
- (xxvii) "Undermanager" or "assistant manager" means a person possessing a Manager's Certificate, who is appointed in writing by the owner, agent or manager to assist the manager in the control, management and direction of the mine or part thereof, and who takes rank immediately below the manager, and is thus superior to an overman and a sirdar;

Crisis Management

1. Introduction

An emergency can be defined as an unforeseen incident / accident requiring prompt action. Mine emergencies occur unscheduled and include events such as fires, explosions, entrapments, and inundations. Familiarization with a contingency plan for emergency operations is important to ensure effective emergency operations. This plan has been developed to prepare mining and engineering and other personnel of BCCL to effectively carry out their role in the event of a mine emergency. The extent that this plan will be implemented will depend on the nature and scope of the emergency. Primary purpose of Crisis Management Plan is to ensure that mine rescue and recovery activities are conducted safely while providing for:

- the protection of personnel involved in rescue and recovery,
- the rescue of survivors, and
- the recovery of the victim or victims.

2. Need of Emergency Organisation

CMR 1957 has required under Reg.199A and directed to draw up a standard operating procedure to be followed in the event of an emergency in the mine so as to ensure that a timely and effective action was taken in case of a major under ground accident (Disaster) in the mine. It has been suggested in this connection that the standing Orders should include instruction for different category of staff and officers who would take action in the manner indicated in the Standing Orders. The instruction should be kept up to date at all times and be made available to the mine officials concerned and to the local rescue station.

It has been the experience in most major disasters that immediate reaction is chaotic, and it has taken some time to sort out and put into operation a systematic method of procedure. The need for having a proper scheme which is put in to operation as quickly and smoothly as possible is, therefore, obvious. Many lives may be saved if all who are to be concerned with rescue work know exactly what part they have to play in the scheme.

3. Important Consideration in drawing up a scheme of emergency organisation

- In the event of a colliery explosion or fire or inundation etc the work done in the first few hours is of vital importance. This applies as much to do the organisation of the operations as it does to the efforts of the rescue teams.
- Each member of the organisation should be given duties, with which he is generally familiar so that he will not have to "learn" the part he will have to play in an emergency.
- In preparing any emergency organisation, the manager should envisage the circumstances in which he himself may be involved in the incident.
- At the time of an accident the manager should exercise his discretion in adopting a plan according to the nature and scale of the emergency.
- It may be that the accident is confined to one district or part of district, and if so, considerable help may be possible from those who are in the pit but not affected by the incident. Nevertheless since the availability of this help can not be considered certain it may not be allowed in the scheme, but such a help would of course be a very valuable 'extra'.
- It may not be possible for a plan to be prepared for those in the pit or near the mouth of the incline. Such persons will therefore have to act according to their own knowledge and initiative whilst the major scheme is coming in to operation.
- An important point to stress is that, if operations are going to be prolonged, it is necessary at an early stage to work out a system of relief. There is no need to stress the arduous nature of rescue work following a disaster, and it should be borne in mind that tired men can not be of much assistance, and in addition are capable of making wrong decisions. Therefore, no matter how great the desire of an official to remain on the job, he must be compelled to leave

the pit and go and rest after he has done a reasonable amount of duty. He would then be able to come back later on and make a further valuable contribution.

- Details of the scheme must be worked out in advance in the fullest possible details, and include the ‘ Action Messages’ and ‘ Warning Messages’ appropriate to each individual colliery.
- The scheme must be capable of immediate operations by a responsible official.
- Every person involved in the emergency organisation must clearly understand in advance his particular role.

4. First Information of emergency / Disaster

Any under ground official, the on-setter or other person realizing that something serious has happened, should telephone to the surface, if there is telephonic communication between under ground and surface. However, where there is no telephone or the telephone is not working, he shall send a special messenger to the attendance clerk / telephone operator at the surface or send the information of the emergency through a special code of signals.

5. Duties of Banksman / Fan Attendant

When the Banksman or the attendant to Mechanical Ventilator or any other person sees or hears any unusual happening e.g. the sound of an explosion, smoke or flame, which may indicate that a disaster has occurred under ground, he should immediately inform the attendance clerk on duty.

6. Duties of attendance Clerk (Emergency Siren)

The attendance clerk or other designated person should on getting information of major accident either from under ground or surface, sound a hooter or a siren immediately declaring a state of emergency at the mine.

7. Duties of Telephone Operator

When a Siren is sounded on the surface declaring the state of emergency, the telephone operator at the surface should first contact the manager and on his advice to call key personnel using the information listed in the Emergency Organisation Chart.

It is important that all telephone calls are recorded in a telephone log book. The record should also include the incoming calls which deal with the emergency. The telephone calls may be tabulated as follows:

Date	Time	Call in or out	Persons called / calling	Tele. Nos. for out going calls	Message	Name / Signature of Operator	Remarks

The telephone operator must give the message clearly and concisely and should not spend any time discussing the circumstances. For example the messages can be given in following format:

- To the Manger / Assistant Manager
X speaking. Urgent Call.
Report received from Shri ----- that explosion / fire / inundation / other incident has occurred in the ----- Seam -----District. Please give authority to operate immediate Action Message.

- To Rescue Station
This is ----- colliery. Telephone No. X (Locality). Urgent Call.
An explosion / fire / inundation / other incident has occurred in the ----- seam ----- District. Workmen are / are not involved. Rescue Station is being notified.

Similar action message could be prepared for summoning the officials of the colliery who may be available on telephone / mobile phone, to summon the colliery doctor, and to summon the assistance of the Central Institute for Mining and Fuel Research or Local Scientific Laboratory.

For summoning the colliery rescue teams and the first aid men who are not likely to be on telephones, message will have to be sent straight way to them through special messenger. A draft for these messengers should also be prepared in advance.

8. Duties of persons employed in mines as per Reg.38 – (1)(a) Every person shall strictly adhere to the provisions of the Act and of the regulations and orders made there under, and to any order or direction issued by the manager or an official with a view to the safety or convenience of persons not being inconsistent with the Act and these regulations; nor shall be neglect or refuse to obey such order or directions.

(b) No persons shall interfere with, impede or obstruct any person in the discharge of his duties, nor shall he offer or render any service, or use any threat, to any other person with a view to preventing him from complying with the provisions of the Act and of the regulations, and orders made thereunder or from performing his duties faithfully. If any person, who receives any such offer or threat, fails to inform the manager forthwith, he shall also be guilty of a breach of these regulations.

(2) Every person shall, immediately before proceeding to work and immediately after terminating work at the end of his shift, have his name recorded in the register maintained under section 48(4) of the Act. In case of workings belowground, he shall get his name recorded every time he proceeds belowground or returns to the surface.

(3)(a) No person shall, except with the authority of an official, remove or pass through any fence, barrier or gate, or remove or pass any danger signal.

(b) Subject to any directions that may be given by an official, no person shall, except for some justifiable purpose, go into any part of the mine other than that part in which he works, or travels to or from his working place by any roadway other than the proper travelling roadway.

(4) No person shall, while on duty, throw any stone or other missile with intent to cause injury, or fight or behave in a violent manner.

(5) Every person receiving any injury in the course of his duty shall, as soon as possible report the same to an official who shall arrange for the necessary first-aid to the injured person.

(6) No person shall sleep whilst on duty.

(7)(a) No person shall test for inflammable gas with a naked lamp, or brush or waft out inflammable gas. Should any person having a flame safety lamp find himself in the presence of inflammable gas, he shall not throw the lamp away or attempt to blow it out; but shall shelter it, hold it near the floor, avoid jerking it, and take it steadily into fresh air. Where he cannot take it into fresh air, he shall smother out the light or extinguish it in water.

[(b) No person unless qualified for the purpose shall try to examine or examine for the presence of inflammable gas and during every such examination particular attention shall be paid to check the presence of inflammable gas in a layer near the roof].

(c) Every person using a safety lamp shall take proper care of it and shall not place it within 0.60 pmetre of the swing of any tool except in the case of a lamp which is actually worn, attached to the body of such person. In the case of a flame safety lamp he shall not place it on the floor unless it is necessary to do so for the safe performance of any particular work; and is the lamp becomes damaged, he shall at once carefully lower the flame until it is extinguished, and shall, at the first opportunity, report the damage to his superior official.

(8) Subject to the provisions of the Act and of these regulations and orders made thereunder, no person shall remain in a mine beyond the period over which his shift extends.

9. Duties of competent persons as per Reg. 39 – Every competent person shall be subject to orders of superior officials, and shall not –

(a) depute another person to perform his work without the sanction of his superior official;

(b) absent himself without having previously obtained permission from such official for the term of his absence or without having been relieved by a duty competent person; and

(c) without permission from such official, perform during his shift any duties other than those for which he has been appointed.

10. Duties of officials as per Reg.40 – (1) Every official shall carry out the duties assigned to him by the manager, under-manager or assistant manager in accordance with the provisions of the Act and of the regulations and orders made there under.

(2) Every official shall, to the best of his power, see that persons under his charge understand and carry out their respective duties properly.

11. Duties of Managers as per Reg.41 – (1)(a) In every mine daily personal supervision shall be exercised by the manager; and in case of workings belowground, he shall visit and examine the workings belowground on at least four days in every week to see that safety in every respect is ensured. Of these inspections one at least in every fortnight shall be made during the night shift :

Provided that when owing to any unavoidable cause he is unable to carry out the aforesaid duties or inspections, he shall record the reason for the same in the book kept under clause (b).

(b) The manager, the under manager and the assistant manager, if any, shall each maintain, in a bound paged book kept for the purpose, a diary; and shall record therein the result of each of his inspections and also the action taken by him to rectify the defects noticed, if any.

(2) The manager shall make arrangements for all Overmen and other officials to meet him or an under manager, or assistant manager once in every working day for the purpose of conferring on matters connected with their duties.

(3)(a) The manager shall see that a sufficient supply of proper materials and appliances for the purpose of carrying out the provisions of the Act and of the regulations or orders made there under and for ensuring the safety of the mine and the persons employed therein, is always provided at the mine; and if he be not the owner or agent of the mine, he shall report in writing to the owner or agent when anything is required for the aforesaid purpose, that is not within the scope of his authority to order. A copy of every such report shall be recorded in a bound-paged book kept for the purpose.

(b) On receipt of a requisition under clause (a) the owner or agent shall promptly arrange to supply the said materials and appliances, and shall within three days of receipt of the requisition, intimate to the manager in writing the action taken to meet the requisition.

(4) The manager shall assign to every competent his particular duties, shall on his appointment make over to him a copy of the regulations, rules and bye-laws and of any orders made there under which affect him, and shall take all possible steps to ensure that every such person understands, carries out and enforces the provisions therein contained in a proper manner.

(5) The manager shall provide every overman with a tracing, up to the date of the last survey, showing the workings of the district belowground assigned to him. Where any work of reduction or extraction of pillars is being carried out, such tracing shall show clearly the order in which such reduction or extraction is to be carried out.

(6) The manager shall examine all reports, registers and other records required to be made or kept in pursuance of the Act or of the regulations, or orders made there under, and shall countersign the same and date his signature. He may, however, by an order in writing, delegate this duty an under manager or assistant manager except in cases where a specific provision is made requiring the manager to countersign a report or register.

(7) The manager shall give attention to, and cause to be carefully investigated, any specific representation or complaint that may be made to him in writing by an employee of the mine as to any matter affecting the safety or health of persons in or about the mine.

(8) When any accident, resulting in serious bodily injury to any person or in loss of life, occurs in a mine, the manager shall inspect the site of accident as soon as possible, and shall also either himself or through an under manager or assistant manager, have an inquiry made into the cause of and circumstances attending the accident. The result of every such enquiry and a plan [and sections and wherever practicable a photograph or photographs of the site of the accident showing details shall be recorded in a bound paged book kept for the purpose and copy thereof shall be furnished to the Chief Inspector and Regional Inspector within fifteen days of the accident].

(9) The manager shall perform such other duties as have been prescribed in that behalf under the Act, the regulations, or orders made there under.

(10) The manger may suspend or take such disciplinary action against any employee for contravention of any of the provisions of the Act, these regulations or orders made there under.

12. Duties of Safety Officers as per Reg. 41A – (1) The duties of the Safety Officer shall be :

(a)(i) to visit surface and underground parts of the mine with a view to meeting the workers on the spot to talk to them on matters of safety, inviting suggestions thereon;

(ii) to take charge of the newly recruited staff and show them around the mine pointing out the safe and unsafe acts during the course of their work in the mine;

(b)(i) to investigate all types of accidents and incidents in the mine including minor accidents; to analyze the same with a view to pinpointing the nature and common cause of accidents in the mine;

(ii) to maintain detailed statistics about mine accidents and to analyse the same with a view to pinpointing the nature and common causes of the accidents in the mine;

(iii) to study and apprise the manager of all possible sources of danger such as inundation, fire, coal dust and others;

(c)(i) to hold safety classes and give safety talks and lectures to the members of the supervisory staff;

(ii) to organize safety weeks and other safety education and propaganda in mine;

(d) to see that all concerned mine employees are fully conversant with various standing orders (such as those relating to stoppage of mine mechanical ventilators and to the occurrence of a fire or other emergency in the mine) and Systematic Timbering Rules;

(e) to provide assistance in the formulation of programme for training at the mine level; including vocational training, training in gas-testing, and training in First Aid;

(f) to report to the manger as a result of his visits to the various arts of the mine, as to whether the provisions of the Mines Act, Regulations and Rules made thereunder are being complied with in the mine;

(g) to promote safety practices generally and to lend active support to all measures intended for furthering the cause of safety in the mine; and

(h) to assist the manager in any other matter relating to safety in the mine.

(2) [Except in an emergency no duties other than those specified above shall be assigned to the Safety Officer and whenever] any duties other than those specified above are assigned to the Safety Officer by the manager, a written notice thereof shall be sent to the Regional Inspector within three days of such assignment.

(3) The Safety Officer shall maintain in a bound paged book a detailed record of the work performed by him every day].

13. Duties and responsibilities of Engineers as per Reg. 50 – The engineer or other competent person appointed for the purpose –

(a) shall, subject to the orders of the manager and other superior official, hold general charge of all machinery at the mine; and shall be responsible for the proper installation, maintenance and safe working of such machinery;

(b) shall, when any machinery is shifted or newly installed, see that it is given a trial run before it is put into use and shall be present during every such trial run;

(c) shall be present throughout whenever any work is installing, changing or recapping of any winding rope, or of installing changing or annealing any suspension gear, is being carried on;

(d) shall see that the provisions of the Act and of the regulations and orders made thereunder relating to the installation, maintenance, operation or examination of machinery are properly carried out by himself or by subordinate officials, competent persons or workpersons as the case may be, appointed for the purpose; and

(e) shall, if mechanics, electricians or other subordinate officials or competent persons are appointed for the purpose, examine all reports, registers and other records relating to the installation, maintenance, operation or examination of machinery required to be made or kept in pursuance of the Act, these regulations or orders made there under, and shall countersign the same and date his signature.

14. Duties and responsibilities of under manager or assistant mangers as per Reg. 42 –

(1) The undermanager or assistant manager shall carry out the duties assigned to him by the manager, and shall see that in the part of the mine assigned to him by the manager, all work is carried out in accordance with the provisions of the act and of the regulations and orders made thereunder.

(2) The undermanager or assistant manager shall, subject to the orders of the manager, visit and examine the workings under his charge, or part thereof, on every working day.

(3) The undermanager or assistant manager shall, from time to time, carefully examine every travelable part of the mine or part thereof placed under his charge, whether frequented by work persons or not.

(4) In the absence of the manager, the undermanager or assistant manager shall have the same responsibility, discharge the same duties and be subject to the same liabilities as the manager, but not so as to exempt the manager therefrom.

15. Duties of Ventilation Officer as per Reg. 42A – The Ventilation Officer shall –

(a)(i) ensure the observances of all regulations and orders concerning ventilation, gas and coal dust including dust suppression and shall advise the manager if any alteration is required in the ventilation system to ensure adequacy of ventilation in compliance with the regulations or orders;

(ii) advise the manager on day to day problems of ventilation, gas and coal dust;

(iii) maintain close liaison with the undermanagers and other supervisory staff, and assist them in their day-to-day ventilation problems;

(b)(i) carry out ventilation surveys of the mine and undertake any other special work relating there to as may be directed by the manager from time to time;

(ii) take such steps as are necessary to ensure compliance with the ventilation standards required in terms of these regulations or otherwise;

- (c)(i) check the speed of the main mechanical ventilator, amperage drawn by its electric motor, and fan drift water gauge at least once in a day. Any unusual change in the water gauge shall be investigated by him and reported to the manager;
- (ii) determine the efficiency of the main mechanical ventilator once at least in every three months and get the fan blades and the fan drift cleaned when necessary;
- (iii) ensure that copies of standing orders in the event of stoppage of the main mechanical ventilator are posted at conspicuous places at the mine, and see that the person concerned understand the instructions contained therein;
- (d) ensure the correct sitting and installation of auxiliary and booster fans underground;
- (e) examine at frequent intervals all ventilation appliances like doors, brattices, air crossings, regulators, stoppings, booster and auxiliary fans, ventilation ducting and other devices of ventilation control in the mine and report any defect in the same to the manager. He shall take necessary steps to stop any leakage through such devices and see that the ventilation appliances are maintained in good order;
- (f) see that sufficient quantity of good air is coursed into all working places and reaches all other workings belowground. For this purpose, he shall, as may be required by regulations, otherwise –
- (i) see that the ventilation stoppings and brattices etc. are constructed as per specifications and are kept extended sufficiently;
- (ii) see that measurements of air quantity, temperature and humidity are regularly taken as prescribed and bring up-to-date the entries on the check boards provided at each air measurement station;
- (iii) determine the Ventilation Efficiency Quotient;
- (iv) see that mine air samples are properly collected at the appointed time and place, and analyzed within four days of taking thereof; and
- (v) make observations for inflammable gas;
- (g)(i) maintain separate tracing of the ventilation, rescue, stone dusting and the dust sampling plans and bring them up-to-date;
- (ii) bring to the notice of surveyor any changes in the ventilation system or ventilation appliances and shall see that all old markings on the ventilation and rescue plans are corrected and new ventilation circuits are shown forthwith;
- (h) regularly check the barometer provided at the mine. Any unusual change in barometer pressure shall be reported by him to the manger;
- (i) take care of the instruments and apparatus used by him or placed under his charge for the discharge of his duties;
- (j) be conversant with the wider practical aspects of pit ventilation such as effects of leakage on the distribution of air in ventilation districts, varying rates of emission of methane and possibility of occurrence of gas outbursts, effects of approaching geological disturbances, methane layering and its removal, sealed off areas and effects of drop in barometric pressure etc.
- (k) regularly visit returns of working districts and old workings including fire stoppings, if necessary, for symptoms of spontaneous heating and fire, report to the manager forthwith any such symptoms observed by him and shall himself take such steps as may be immediately necessary for the safety of the workers;
- (l) check the fire fighting measures and taken necessary steps by regular rehearsals to ensure that all fire fighting equipments are maintained in working order and the concerned staff are fit and conversant with their duties in the event of a fire in the mine;
- (m) (i) take necessary steps for proper cleaning, treatment and suppression of coal dust in the mine and see that the arrangements for wet cutting at the faces and water spraying at and within 90 metres of the working places are properly installed and function satisfactorily;
- (ii) see that the stone dust barriers are correctly sited, properly constructed and maintained in accordance with the statutory requirements or otherwise; and bring the entries on the check boards up-to-date from time to time;

(iii) see that samples of mine roadway dust and of airborne dust samples (if required by the manager) are regularly taken in the prescribed manner;

(n) collect air samples from sealed off areas, exhaust gases from diesel vehicles and from such other places as may be required by the manager;

(o) see that all records and reports relating to ventilation and coal dust are kept up-to-date and entries are made regularly in the checkboards for ventilation and stone dust barriers:

Provided that nothing contained above shall exempt the manager, assistant manager, surveyor, overman, sirdar or any other competent person concerned, from any corresponding duties and responsibilities prescribed for them in these regulations or any orders made thereunder; and

(p) assist the manager in any matter relating to the ventilation of the mine.

(2) 1[Except in an emergency no duties other than those specified above shall be assigned to the ventilation officer and whenever] any duties other than those specified above are assigned to the ventilation officer by the manager, a written notice thereof shall be sent to the Regional Inspector within three days of such assignment.

(3) The Ventilation Officer shall maintain, in a bound paged book, a detailed record of the work performed by him every day].

16. Duties and responsibilities of Overman as per Reg. 43 – The overman shall strictly observe the following provisions, namely –

(1) (a) Subject to the orders of superior officials, he shall have responsible charge and control of such part of the mine, and shall carry out such duties, as may be assigned to him by the manager.

(b) He shall, while on duty, carry a tracing of the workings of such district and shall keep the tracing up-to-date.

(c) He shall, in his district, make the inspections and reports required by these regulations.

(d) He shall be responsible to see that the subordinate officials and competent persons in his district carry out their respective duties in a proper manner.

(e) He shall, to the best of his power, enforce in his district the provisions of the Act, of these regulations and orders made thereunder, and shall, subject to the control of the manager and the undermanager, assistant manager, if any, give such directions as may be necessary to ensure compliance with those provisions, and to secure the safety of the district and the safety and proper discipline of the persons employed therein.

(2) He shall see that sufficient supplies of timber brattice and other necessaries required for the safe working of his district are kept in convenient places therein.

(3) (a) He shall see that every air-crossing, stopping, door, brattice and other ventilation device is maintained in good order.

(b) He shall, in his district, see that the ventilation is effective; and when brattices or air pipes are required to be used for the ventilation of the working places, he shall see that they are kept sufficiently advance to ensure that an adequate amount of air reaches every such working place.

(c) He shall have power to send out of the mine any person under his charge infringing or attempting to infringe any provision of the Act or of the regulations or orders made thereunder, or failing to carry out any direction given with regard to safety; and shall report in writing any such infringement or attempted infringement or failure to the manager.

(4)(a) He shall see that all tracks and tramlines are properly laid, graded, ballasted or otherwise packed.

(b) He shall see that the manholes on the haulage roadways are kept safe, clear of any obstruction, and properly white-washed.

(c) He shall see that the stop-blocks, runway switches and other safety devices are fixed and used as required under the regulations, that drag or back-stays are provided and regularly used behind tubs ascending declines and that a sufficient supply of suitable sprags is provided where tubs are loaded on a gradient or lowered down a gradient by hand.

(d) He shall, if he finds any of the ropes, chains, signals, brakes, jig wheels and post or other apparatus in use in his district to be in an unsafe condition, stop the use of the same forthwith.

(5) He shall be responsible to see that except for the purpose of inspection, examination and repairs every person other than an official or a haulage attendant travels by the traveling roadway.

(6) He shall give prompt attention to the removal of any danger observed or reported to him, and shall see that dangerous places are adequately fenced off.]

(7) He shall, under the direction of the manager, see that approved safety lamps are used and naked lights excluded wherever and whenever danger from inflammable gas is apprehended.

(8)(a) He shall devote the whole of his time to his duties and shall visit each working place in his district as often as may be necessary or possible.

(b) He shall not, except for justifiable cause, leave the district in his charge until he had finished the inspections required under these regulations and any other duties that he is required to perform, or until relieved by a duly appointed substitute.

(c) He shall, if the mine is working in a continuous succession of shifts, confer with the official succeeding him and give him such information as may be necessary for the safety of his district and of persons employed therein.

(9) He shall, at the end of his shift, record in a bound-paged book kept for the purpose a general report on the performance of all his duties during the shift, including anything concerning the proper working of the mine and the safety and discipline of persons employed in his district.

17. Duties and responsibilities of Mining Sirdars as per Reg. 44 – The Sirdar or other competent person appointed under regulation 113 shall strictly observe the following provisions, namely –

(1)(a) Subject to orders of superior officials, he shall have responsible charge and control of the district of the mine assigned to him by the manager or the under-manager or assistant manager.

(b) He shall take reasonable means to ensure the proper observance of the requirements of the Act and of the regulations, and orders made thereunder by persons under his charge and shall, as soon as practicable, report any contravention thereof to his superior official.

(2)(a) He shall make such inspection and reports as are required by these regulations, and in making such examination, he shall pay particular attention to edges of the goaf, if any, for checking supports and for presence of gas.

(b) Except in the case of a mine working in a continuous succession of shifts, he shall, on completion of the first inspection of the district, proceed to the station appointed under regulation 113 and instruct all persons as to their places of work and as to any special precautions necessary to be observed by them.

(c) If he finds any person in a place other than the one assigned to him, he may order such person out of the mine, and shall forthwith report the matter to his superior official.

(d) He shall ensure that no inexperienced person is employed on any work except under the supervision of an experienced person.

(3)(a) He shall see that the roof and sides of all travelling roadways to, and working places in, his district are made and kept secure.

(b) Where the height of any working place in the district in his charge measures from floor to roof exceeds three metres, he shall see that they are kept at convenient places in the district-

(i) a suitable wooden buntun or pole by which all parts of the roof may be effectively tested by a person standing on the floor. Except in a district to which regulation 144 applies, the buntun shall be shod with iron at one end; and

(ii) a ladder of suitable length.

(c) He shall report to his superior official any deficiency in timber, appliances and other necessaries required for the safe working of the district.

(4) Where either of the two ways affording means of egress from the district to the surface is not ordinarily used for travelling, he shall travel, once at least in every seven days, the whole of such way in order to make himself thoroughly acquainted with the same.

(5) He shall see that no timber support is withdrawn except by means of a safety prop withdrawer.

(6)(a) If he observes any dangerous place during the course of his inspections or if any danger at a place where workpersons are employed is reported to him, he shall, if the danger cannot be removed forthwith withdraw all persons from such place and shall not leave the place until the danger has been removed in his presence or all approaches to the place have been fenced off so as to prevent persons from inadvertently entering such place.

(b) He shall take care that any dangerous operation is carried out with due precaution, and in such cases shall be present throughout whenever any work of clearing falls of ground and setting of supports therein is being carried out.

(c) He shall cause the entrance to every place which is not in actual use or in course of working or extension, to be fenced across the whole width, so as to prevent persons from inadvertently entering such place.

(d) If he finds any accumulation of inflammable or noxious gases, he shall carry out the provisions of regulations 142 and shall not remove such accumulation until he has received instructions in that behalf from his superior official.

(7) He shall, on receipt of information of an accident to any person in his district, proceed at once to the place of accident, inspect the place and, if required, supervise the rescue operations, and shall report or send notice of the accident to the manager or undermanager or assistant manager.

(8)(a) He shall devote the whole of his time to his duties, and shall not leave the mine until the end of the shift or until relieved by a duly appointed substitute.

(b) If the mine is worked by a continuous succession of shifts, he shall, before leaving his district, confer with the sirdar or competent person succeeding him, and shall acquaint him with all matters requiring his personal attention and give him such other information as may be necessary for the safety of his district and of the persons employed therein.

18. Duties of timberman as per Reg. 46 – The timberman shall carry out the orders of the manager, undermanager or assistant manager, overman, sirdar or other competent person with respect to the securing of roof and sides. He shall at once report to the sirdar or other competent person any shortage of timber in his district. He shall also be responsible to see that woodcuttings are not left in any working belowground.

19. Duties of attendants of main mechanical ventilators as per Reg. 47 – The person in charge of the main mechanical ventilator shall –

(a) keep the ventilator running at the speed fixed by the manager;

(b) examine the machinery and observe the pressure-recorded or water gauge and the speed-indicator at intervals of not more than one hour, and shall, enter the readings of the indicator in a bound-paged book kept for the purpose at the fan-house;

(c) immediately report to his superior official any stoppage of, damage to, or defect or derangement in the machinery, or any unusual variation in the water-gauge or other indicators; shall also immediately report to him any unusual circumstances in regard to mine ventilation which may come to his notice; and

(d) where the ventilator is continuously operated, shall not leave his post until received by a duly appointed substitute.

20. Duties of lamp-room in charge as per Reg. 48 – The competent person in charge of a safety lamp-room–

(a) shall be responsible for ensuring that all lamps in the safety lamp-room are properly maintained in accordance with the provisions of the regulations;

(b) shall see that the safety lamp-room is kept in a neat and tidy condition, and that all damaged and defective gauges, glasses and other parts of safety lamps are not kept or stored in such room;

(c) shall see that fire extinguishers or other means of dealing with fires provided in the safety lamps room are in good condition and readily available for use;

(d) shall see that all records required by the regulations for the issue, return and maintenance of safety lamps are properly maintained; and

(e) shall carry out such other duties relating to the maintenance, issue and return of safety lamps as may be specified by the manager or the undermanager or assistant manager.

21. Duties and responsibilities of surveyors as per Reg.49 – (1) The surveyor shall –

(a) make such accurate surveys and leveling, and prepare such plans and sections and tracings thereof, as the manager may direct or as may be required by the Act or by the regulations or orders made thereunder, and shall sign the plans, sections and tracings and date his signature; and

(b) be responsible for the accuracy of any plan and section, or tracings thereof that has been prepared and signed by him.

22. Duties of winding enginemen as per Reg. 51–

(1) At the beginning of his shift the winding engineman shall examine the engine, brakes and all appliances in his charge, and shall satisfy himself that they are in good working order.

(2) Every winding engineman shall during his shift keep the winding engine and apparatus connected therewith properly cleaned and oiled, and shall see that the engine room is clean and free of inflammable material.

(3) The winding engineman shall immediately report in writing to the engineer or other competent person appointed for the purpose any defect which he has noticed in the engine, brake, indicator, drum, rope or other appliances under his charge.

(4) The winding engineman shall not allow any unauthorised person to enter the engine room or in any way to interfere with the engine.

(5) The winding engineman shall thoroughly acquaint himself with, and carefully attend to, the prescribed code of signals; and shall not start the engine until he has received the proper signal to do so. If the signal is indistinct, he shall not start the engine until it has been repeated and he clearly understands it.

(6) The winding engineman shall avoid jerk in starting, running and stopping the engine, and shall cause the cage or other means of conveyance to be brought gently to rest at any stopping place.

(7) While persons are being lowered or raised in the shaft, the winding engineman shall not drive the engine at a speed higher than that fixed by the manager for man riding purposes and approved by the Regional Inspector.

(8) The winding engineman shall not unclutch the drum of his engine until he has assured himself immediately beforehand by testing the brake of the drum against the full power of the engine that the brake is in proper condition to hold the load suspended from the said drum. When the drum is unclutched, he shall use the brake only for the purpose of maintaining such drum stationery, and shall not lower men or materials from an unclutched drum.

(9) The winding engineman shall on no pretext leave the handle or brake whilst the engine is in motion, or while persons are riding a cage or other means of conveyance in the shaft.

(10) The winding engineman shall not leave the engine whilst persons are at work in the shaft. Whenever he has occasion to leave the engine, he shall cut off the power and secure the drums with the brake.

(11) The winding engineman of a winding engine by which persons are lowered or raised in a shaft, shall not leave the engine at the end of his shift unless all the persons have come out of shaft or unless relieved by a duly appointed substitute.

23. Duties of banksmen and onsetters as per Reg. 52 – (1) Every banksmen or onsetter shall observe the following provisions, -

(a) He shall, subject to the orders of a superior official, have full control of the top or bottom of shaft and the inset, as the case may be and shall report to such official any person who, without authority, gives a signal or disobeys instructions.

(b) He shall thoroughly acquaint himself with, and carefully attend to, the prescribed code of signals, and shall properly transmit the signals by the means provided. He shall not act on any signal the correctness of which he is in doubt, except a signal which he believes to be "to stop". He shall not allow any unauthorised person to give signals.

(c) He shall immediately report to his superior official any defect in the signalling installation.

(d) He shall devote the whole of his time of duties, and shall not leave his post during the period of his duty. Where persons are raised or lowered in the shaft, he shall not leave his post at the end of his shift unless all the persons have come out of the shaft or unless relieved by a duly appointed substitute.

(e) He shall not allow more than the authorised number of persons to enter the cage or other means of conveyance at any one time.

(f) He shall not, unless specially authorised in writing by the manager in that behalf, allow any persons when riding in a cage or other means of conveyance, to take with him any bulky material other than tools and instruments:

Provided that nothing in this clause shall be deemed to prohibit the carrying, in a cage or other means of conveyance, the explosives by a shotfirer or other competent person.

(g) After any stoppage of winding for repairs or for any other cause for a period exceeding two hours, he shall not allow any person to ride in the cage or other means of conveyance unless it has been run at least one complete trip up and down the working portion of the shaft.

(h) He shall not allow any person to ride on the top or edge of any cage or other means of conveyance except when engaged in examination, repair or any other work in the shaft.

(i) He shall, after persons have entered the cage, see that the cage gates on both sides are in position and closed, before signalling for the cage to be lowered or raised.

(j) He shall not allow any unauthorised person to handle tubs in or out of the cage. While tubs are being lowered or raised, he shall also see that the catches are holding the tubs properly before signaling the cage or other means of conveyance away. If he notices any defect in the tub-catches, he shall immediately inform his superior official.

(k) He shall not, at any entrance into a shaft or inset which is provided with gates or fences not worked by the cage or other means of conveyance, begin to remove the gate or fence until the cage or other means of conveyance has stopped at the entrance, and shall close the gate before he has signalled the cage or other means of conveyance away. He shall not permit any unauthorised person to open or interfere with the gate.

(l) He shall see that all fences and gates provided at the top of the shaft or at any inset are in position.

(m) He shall not permit any unauthorised person to remove a fence or gate; and if he notices any defect in such fence or gate he shall immediately inform his superior official.

(n) He shall keep the top of the shaft or the inset and the floor of every cage free from loose material.

(o) He shall, when long timber, pipes, rails or other material projecting over the top of a cage or other means of conveyance are lowered or raised, see that the projecting ends are securely fastened to the rope, chains or bow.

(p) He shall, when he suspects that the cages are not working smoothly in the shaft or when he hears anything unusual happening in the shaft while the winding engine is working, immediately give signal to the winding engineman to stop the engine.

(2)(a) At the beginning of his shift, the banks man shall see that the keps are in proper working order.

(b) The banksman, when he is informed of any danger in the shaft, shall not allow any person to descend except for the purpose of examination or repair; and during the time that such examination or repair is going on, shall be on duty and listen for signals.

(c) The banksman shall not permit any person descending the shaft to carry any intoxicating drink or drug, or allow any intoxicated person to descend.

24. Duties of Attendance Clerks as per Reg. 57 - (1) Every person appointed to keep registers or other records required to be kept by or under the Act or under these regulations, or orders made thereunder, or to make entries therein, shall make the necessary entries in ink and with reasonable despatch.

(2) During the whole time that persons are at work, the attendance clerk shall remain on duty at attendance cabin which shall be provided near the workplaces, or in case of workings belowground, near the outlet used by the workpersons to enter and leave such workings.

(3) No person who is not an employee of the mine or is not entitled to enter the mine under the Act or under the regulations, or orders made thereunder, or is not so authorised by the manager, shall enter the mine. It shall be the duty of the attendance clerk to see that no such person enters the mine; if any such person forcibly enters the mine, the attendance clerk shall immediately report the matter in writing to the manger.

(4) If after the commencement of a shift any official or a competent person has not got his attendance recorded in the register maintained under section 48(4) of the Act, the attendance clerk concerned shall, within two hours after the commencement of the shift, report the fact in writing to the Manager, or the under manager or assistant manager or other official in charge of the shift.

25. Corporate Crisis Management Committee **Name** **Office** **Residence**

D(T) OP	- CHAIRMAN	Sri D. C. Jha	2230163	9470595111
DIG, CISF	- MEMBER	Sri U.K.Sarkar	2230406	9431121411
GM(S&R)	- MEMBER	Sri A.K.Srivastava	2230174	9470596309
GM (F) -	MEMBER	Sri P.K.Bandopadhyay	2230179	9470595171
GM (E&M)	- MEMBER	Sri P. Ghosh	2230184	9470597146
GM (MM)	- MEMBER	Sri A.K.Choudhary	2230181	9470595238
GM (P&P)	- MEMBER	Sri Subir Ghosh	2230276	9470597402
GM (P&IR)	- MEMBER	Sri S. Kudada	2230204	9470595470
CMS	- MEMBER	Dr.(Mrs) Alka Upreti	2230189	9470595554
PRO	- MEMBER	Sri R. R. Prasad	2230202	9470595959
TRADE UNION REPRESENTATIVES FOR SAFETY AT BCCL LEVEL		- MEMBER		
Names and Phone Numbers`				

Sl.No.	Name of the Representative Member	Name of Union	Contact No.
1.	Shri Binod Mishra	U. C. W. A	9431377152 9470595877
2.	Shri R.S. Tewari	RCMS	9430152593 9470595979
3.	Shri H.N.Chatterjee	RCMS	9470595976
4.	Shri S.K.Pandey	RCMS	9470595977
5.	Shri Paras Nath Dubey	RCMS	9431191412 9470595983
6.	Shri R.P. Singh	KIMP (HMS)	9470595980
7.	Shri Gopal Mishra	J. M. S.	9470595988 9430703651
8.	Shri R.K. Tewari	UTUC	9470595982
9.	Shri A.M. Paul	BCKU	9835341289 9470595978
10.	Shri Bindeshwari Prasad	DCKS/BMS	9334429431 9470595967

26. INFORMATION SYSTEM

❖ **AT UNIT LEVEL**

On occurrence of crisis Colliery Manager will inform the following

- Agent of the Mine
- CGM/GM of the Area
- DDMS
- Deputy Commissioner, Dhanbad
- Local Police Station
- Unit Level Trade Union Members
- Nearest Rescue Station / Rescue Room
- Nodal Officer of ISO for the Area
- Members of Crisis Management Committee at Unit Level
- Colliery Medical Officer & Area Medical Officer

❖ **AT AREA LEVEL**

After getting information from unit CGM/GM of the Area will inform the following

- CMD/ DT(OP)/CGM(Co-Ord.)/TS to CMD, BCCL
- DDG, Central Zone Dhanbad
- DC/ SP, Dhanbad
- CGM(S&R), BCCL

- CGM(E&M)/ CGM(MM), BCCL
- CGM/GM of nearby Areas of BCCL and other Company(Tata, IISCO)
- Area Level Trade Union Members
- Local CISF Commandant
- CMS, Central Hospital Dhanbad
- GM(Rescue), Dhansar
- Members of Crisis Management Committee

❖ **AT BCCL LEVEL**

Members of Crisis management Committee at BCCL Level will be informed by CGM(S&R)

- ❖ After getting information from Area CGM(Co-Ord), BCCL will inform the following
 - Chairman, CIL
 - Secretary, Ministry of Coal
 - Director General of Mines Safety, Dhanbad
 - CMD's of other Companies
 - DC/SP, Dhanbad

27. The informer, while reporting the emergency, shall give the following information, at a minimum, if known by the person reporting the emergency. The information should be recorded on the Mine Emergency Data sheet.

- Mine Name and Area Name;
- Mine Location;
- Mine Telephone Number;
- Name of Person Reporting Emergency;
- Nature of the Incident/Emergency;
- Time and Date of Incident/Emergency;
- Degree of Seriousness;
- Names and Number of Injured or Personnel Unaccounted For;
- Brief Description of Incident/Emergency;
- Affect of Incident/Emergency on Mine;
- Present Status of Situation; and
- Action, if any, Currently Being Taken.

After receiving notice of a mine emergency, the person who received the notice shall forward the information to the appropriate level and authority.

28. Control Room will be established at Unit Level, Area Level and Company Level

Control Room at the site of Disaster will be Headed by CGM/GM of the area and will be equipped with following-

- Dedicated Land Line(Telephone)
- Two Mobile Phones
- Dedicated Fax Line
- Computer (for e-mailing) with Printer
- Lap Top Computer for working during power failure
- Control Room will be manned round the clock
- Two Vehicles along with Drivers for emergency duty
- Telephone/Mobile Numbers and e-mail addresses of the following
 - Control room at Area and at Company(BCCL) Level
 - DGMS Offices in Central Zone and Eastern Zone
 - Ministry of Coal
 - Coal India Limited
 - Head Quarters of Other Subsidiary of Coal India
 - Coal Mines Authorities of Other Companies such as TISCO, IISCO / SAIL
 - District Administration

- Central Hospital Dhanbad, Govt. Hospitals in Dhanbad & Bokaro, Private Nursing Homes in Dhanbad & Bokaro
- HOD's of BCCL
- All Mines Rescue Stations, Rescue Rooms and Rescue Rooms-cum-Refresher Training Centres in Coal India Limited
- All Central Workshops in Coal India Limited
- Major Indigenous Manufacturers of Pumps and Rescue Appliances and Their Offices in Dhanbad
- Company wise List of Major Inventories like Pumps, Pipes, Electricals, Safety Equipments, Large Dia. Boring Machine, Mobile Winders etc with their location will be maintained in a register in the Control Room.

29. Operations Control Room

- After establishment of Control Room and information to all concerned Core Group for action will be formed with following as members-
 - (i) Director General of Mines Safety or his Representative
 - (ii) Chairman, Coal India or his Representative
 - (iii) CMD, BCCL
 - (iv) DC, Dhanbad or his Representative
- Core group will be headed by one of the member depending on the nature of the disaster. All the decisions will be taken by the Core Group
- Task Force comprising of Members of Crisis Management Committee GM(Rescue),GM(P&P),GM(Safety),CGM/GM of Neighboring Area, GM(MM), Dy.CPM of the area, Agent of the Mine, Local Police Inspector, CISF officers, Rescue Superintendent, Rescue Trained Managers / Engineers / Doctors and Rescue Trained Staff /workmen will be formed.
- All action of Rescue and Recovery will be carried out by the Task Force
- Support Logistics will be arranged by the Task Force

30. The official designated to control the operations should include the following provisions among his principal duties:

1. **Check of Missing men** – Make early check of the number of men missing under ground and obtain casualty list from the Medical Officer.
2. **Duty Roster** – In order to provide adequate supervision and control at all times – at surface and underground – prepare duty roster covering 24 hours so as to ensure continuity of officials in charge. This should be posted in the Control Room for reference.
3. **Additional Rescue Teams** – These should be called from neighboring collieries only after consultation with the Rescue Station Superintendent and a roster of teams should be drawn up to cover prolonged operations.
4. **Authorisations** – An authorization system should be put in to operation at once for persons required to operate in the pit (i) to obtain a cap lamp (ii) to proceed underground. All Authorisations Cards should be printed for this purpose and they should be issued from the operations control room on the authority of a senior official. Clerical assistance may be provided to ensure of these cards.
5. **Operations Book for Record of Events** – As a matter of routine, a running record should be kept of all important events as they occur. This would serve the double purpose of enabling senior officials coming on duty to see what has transpired and of providing materials for a connected report on the incident and the action taken to deal with it.
6. **Materials and Equipment** – Check reports regarding materials and equipments immediately available at the following places for dealing with the incident:
 - (a) In the Pit;
 - (b) At the Rescue Station;
 - (c) At the Colliery Stores.

7. **Persons available for assistance in recovery work** – obtain a register of names, address and occupation of workmen available to assist in recovery work.

31. Items to be kept available in the Operations Control Room –

- Copies of Emergency Operations Plan
- Supply of Duty Cards indicating principal duties of key personnel
- Telephone Log Books
- Authorization Cards
- Message Forms with duplicate pages

32. Mine Rescue Coordinator (DGMS Official)

- Provide assistance to the DGMS Official regarding mine rescue and recovery activities.
- Coordinate briefings and debriefings of mine rescue personnel.
- Assist mine rescue teams to ensure they follow appropriate mine rescue procedures, particularly when teams are located at or in by the fresh air base or other strategic locations of rescue activity.
- Maintain an accurate and up-to-date record of activities performed by the mine rescue teams.
- Maintain open communication lines with other command center personnel and provide advice on potential unsafe mine conditions and locations, when appropriate.
- Clear all dangerous areas of the mine of all unnecessary personnel when determined appropriate.
- Obtain DGMS's technical assistance as needed for the mine rescue and recovery operations.
- Coordinate with the Command Center Coordinator or other appropriate company official, the Company's Public Relations Manager, and DGMS representatives to ensure regular briefings are provided to families of mine accident victims as circumstances dictate.

33. Surface Coordinator (Company official)

- Coordinate security functions at identified strategic locations on site.
- Establish a check-in/check-out system to log and track all authorized personnel entering and exiting the emergency scene and keep open line of communication between checkpoints and the command center.
- Maintain communications with strategic locations on rescue and recovery progress and other related information. Communicate information to the designated company spokesperson.
- Maintain comprehensive records, in a logbook, of all activities underground (if appropriate) and at the surface throughout the emergency. Record discussions and decisions pertinent to the coordination of rescue and recovery activities.
- Assist the Command Center Coordinator in maintaining an accurate and up-to-date mine map of all rescue and recovery activities.

The key personnel who would be required to co – operate with the surface control may include the following:

- (i) Head clerk
- (ii) Telephone Operator
- (iii) Colliery Engineer
- (iv) Banksman
- (v) Lamp room In charge
- (vi) Time keeper
- (vii) Store Keeper
- (viii) Fan Attendant
- (ix) Surveyor
- (x) Administrative Officer
- (xi) Electrician & Mechanic
- (xii) Nurse and First Aid Attendant
- (xiii) First Aid Men
- (xiv) Colliery Rescue Men
- (xv) Welfare Officer
- (xvi) Civil Engineer

- (xvii) Canteen Manager
- (xviii) Area Laboratory Incharge
- (xix) Scientific Laboratory In charge of ISMU, CIMFR
- (xx) Police Station & Officials
- (xxi) Company Security
- (xxii) CISF Guards

34. **Underground Coordinator (Company official)**

To provide adequate supervision and control underground at all times, a continuity of officials and assistants should be arranged to operate as follows:-

1. **Officials in General Control:** One man / each shift (manager rank official)
2. **Officials in Charge of Fresh Air Base:** one man in each shift
 - a) **Pit Officials,** being Safety Officer or other experienced official, to take Charge of pit personnel and equipment and also water supplies for fire fighting etc..
 - b) **Rescue Station Superintendent** (or other officer) to supervise rescue men, apparatus and procedure of team; one on each shift.
 - c) **First – Aid men:** one in each shift.
3. **On setter:** To control pit bottom and verbally direct operating personnel towards affected district.
4. **Transport Officials:** one on each shift.
 - a) To organize conveyance of materials in bye.
 - b) To supervise transport of injured in bye.
5. **Electricians:** To check telephone requirements. Reliable operators will be needed to man in bye telephones (if installed)
6. **Assistant Surveyor or Chainman:** To signpost route to Fresh air Base for speedy guidance of helpers from other pits.
7. **Additional First Aid Men:** A supplement number should be readily available underground whenever required.
8. **Food for Persons Underground:** Responsible person to take supplies of food and hot drinks in bye at fixed times to rescue teams and other personnel. Proper control of distribution is important.

35. **Logistics Coordinator (Company official)**

- Obtain equipment and supplies requested by the Command Center Coordinator or Mine Rescue Coordinator.
- Coordinate the placement of rescue and recovery supplies, emergency vehicles, rescue and recovery personnel, media, and other authorized persons.
- Locate and secure equipment and supplies if more than what is available at the mine site is needed.
- Coordinate victim and family assistance services such as providing facilities for family and victim privacy, stress counseling, Red Cross notification and other as needed.
- Maintain an open line of communication with the command center.

36. **Technical Specialist Coordinator (Company official)**

- Coordinate technical support services.
- Provide or secure expertise relative to mine ventilation, roof control, electrical installations, explosives, and ground control, as deemed necessary by the emergency. Assist and advise the command center on technical matters.
- Supervise atmosphere-monitoring stations.
- Ensure mine maps are provided with known air quantities, location of ventilation controls, direction of airflow, and updated pertinent information as rescue/recovery progresses.
- Provide and maintain electrical power to areas designated by the command center.
- Maintain and monitor electrical installations including substations, hoists, elevators, emergency, mine fans, and escape facilities.
- Disconnect electrical power, except as needed to maintain ventilation, from the affected area. Maintain power outside the affected area only when necessary for equipment use and communications.
- Maintain open communication lines with the command center.

37. Ventilation Coordinator - underground only (Company official)

- Monitor and maintain continual operation of the mine fans.
- Establish sampling stations to monitor mine atmosphere at preselected locations.
- Maintain an accurate and up-to-date log of fan pressure, air quality, and air quantity a regular predetermined intervals. Gases monitored at the mine fan should include carbon monoxide, methane, and oxygen.
- Communicate air quality and quantity measurements, significant changes, and unusual occurrences to the command center.
- Ensure that mine fans are operating: except that inoperable fans should not be restarted before consulting with responsible agencies and company officials and that ventilation to non-explored areas should not be altered.

38. Communication Coordinator (Company Official)

- Establish a secure communication area between all strategic locations and key personnel in the command center.
- Ensure all emergency service and assistance agencies have been notified.
- Monitor communications with rescue teams and emergency services personnel relating to the emergency. Coordinate communication systems between agencies and relay necessary information directly to the command center.
- Secure a phone line, which allows private communications by the Mine Rescue Coordinator to the DGMS office.

39. Company Spokesperson (Company Official)

- Establish a location for media briefings and introduce himself to the media as the official spokesperson for the company.
- Maintain an open line of communication with the command center and relay appropriate information to the media at predetermined selected intervals.
- Establish contact with the Company's Public Relations Manager and DGMS Office of Information and Public Affairs personnel for assistance and coordination of released information as the situation warrants.

40. Medical Infrastructures of BCCL as on 02.04.2016

Dispensaries	Hospital	Doctors	Beds	Ambulances
61	Central Hospital- 01, Regional Hospital- 10	158	827	52 + 13 Mobile Vans

BED STRENGTH OF BCCL HOSPITALS

Sl. No.	Name of Hospitals	No. of Beds
1.	CENTRAL HOSPITAL, DHANBAD	500
2.	REGIONAL HOSPITAL, BAGHMARA	80
3.	REGIONAL HOSPITAL, KATRAS	40
4.	REGIONAL HOSPITAL, LOYABAD	50
5.	REGIONAL HOSPITAL, KUSTORE	30
6.	REGIONAL HOSPITAL, TISRA	15
7.	REGIONAL HOSPITAL, JEALGORA	50
8.	BHOWRA HOSPITAL	20
9.	SUDAMDIH HOSPITAL	10
10.	MOONIDIH HOSPITAL	20
11.	DUGDA WASHERY HOSPITAL	10
12.	BHOJUDI HOSPITAL	10
13.	REGIONAL HOSPITAL, BHULI	30
14.	KOYLA NAGAR HOSPITAL	12
	Total	877

41. RESCUE SERVICES INFRASTRUCTRE OF BCCL (As on 01.04.2016)

Sl. No.	Name of Rescue Station/ Room	Contact Number	Self Contained Breathing Apparatus	Resuscitating Apparatus	No. of Brigade Members
1.	Rescue Station Dhansar	Phone No. 0326 – 2291383 Mobile No. 9931188280	112	16	18
2.	Rescue Room, Sudamdih	Mobile No. 9931188281	40	06	08
3.	Rescue Room, Madhuband	Phone No. 9931188285	17	03	05
4.	Rescue Room, Moonidih	Mobile No. 9931188284	15	03	07
Total			184	28	38

TOTAL NOS OF RESCUE TRAINED PERSONS - - 378
 No. of Fire Tenders in BCCL - 05
 No. of Foam Generating Machines - 03
 No. of SCSR (30 Minutes Duration) - 8070 (At MRS Dhansar- 12 Nos.)
 No. of SCSR (60 Minutes Duration) - 1190 (At MRS Dhansar- 30 Nos.)

42. Telephone Nos. Of Control Room - (0326) 2230176
 Room No. 5, Level 6
 Koyla Bhawan, BCCL, Dhanbad

43. CONTACT NOS. OF MINISTRY OF COAL

Name of Officer	Designation	Office Telephone No.	Fax No.	Residential Telephone	Email Address
Sri Anil Swarup	Secretary	23384884	23381678		secy.moc@nic.in
Dr A. K. Dubey	Additional Secretary (C)	23386710	23384893	24671788	as.moc@nic.in
Sri. R.P.Gupta	Joint Secretary(C)	23384224	23385652		jscoal.moc@nic.in
Smt. Sujata Prasad	Joint Secretary & Financial Advisor	23384211	23387528	26114142	jsfa.moc@nic.in
Sri D. N. Prasad	Advisor, Projects	23386347	23387738	26178364	advp.moc@nic.in
Sri Peeyush Kumar	Director (Technical)	23381536			dirtec.moc@nic.in
Sri Anurag Kapil	Director (ASO/CAII)	23384594		26166237	anurag.kapil@nic.in

44. CONTACT NOS. OF DHANBAD ADMINISTRATION AND HOSPITALS

Emergency Numbers	OFFICE		STD CODE - 0326
District Commissioner 'DC'	2312401	DDC	2311131
Police Control Room	207807	Dhanbad Fire Station,	101
Additional Collector	2312403 / 2222761	SDM	2312409
District Police and Police Stations			
SP	2220802	DSP	2220214
Bank More P.S	2302417	Dhanbad Sadar P.S	2220809
Dhansar P.S	2307538	Jharia P.S	3209331
Saraidhela P.S	2201030	Govindpur P.S	2262619
Bhuli P.S	2340262	Kendua P.S	2332582
Mahuda P.S	2221100	Putki P.S	2330434
Barora P.S	2392185		
Ghanuadih P.S	2361166	Jogta P.S	2372540
Jorapokhar P.S	2381401	Katrasgarh P.S	2372440
Madhuban P.S	2392085	Mhuda P.S	2421100
Nirsa P.S	2275042	Patherdih P.S	2381707
Putki P.S	2330434	Sudamdih P.S	2380380
Tisra P.S	2290100	* number to be checked	
Hospitals and Ambulance / Blood Banks			
PMCH	2204165		
Civil Hospital	2202473	Koyla Nagar Hospital	2202624
Patliputra Nursing Home	2302848	Matri Sadan	2461473
C.C.Hazra Memorial Hospital	2302637	Marwari Yuva Manch Jharia, Dhanbad	2462296
Lions Club of Shastri Nagar	2302848	Marwari Yuva Manch Chas, Dhanbad	2265635
Central Hospital, Jagjeevan Nagar	2203061 / 2203067	Dhanbad Blood Bank, Joraphatak	2303621
Jharia Blood Bank	2461932 / 2460449	Kishore Thacker, Jharia	2461006
Zonal Blood Bank	2202473	Tata Central Hospital, Digwadih	2461589

45. CONTACT NOS. OF DGMS

HEAD OFFICE DHANBAD - 826001

EPABX - For Speed Call: 0326-2221005-09. Through Operator: 0326-2221002-04

FAX Nos. 0326-2221027 (DG), 0326-2221020(DDG HQ) , 0326-2221043(DDG Elect)

Name	Designation	Office	Residence
Sri Rahul Guha	Director General	2221000	2221041
Sri Kalyan Mondal	Sr. Private Secretary	2221186	2206765
Sri P.K.Palit	Director of Mines Safety(Exam)	2221036	2221178
Sri B. Papa Rao	Director of Mines Safety (SD)	2221018	2206763
Sri A. K. Sinha	Director of Mines Safety (S&T)	2221037	2221165
Sri P. Ranganatheeswar	Dy. Director General (HQ)	2221021	2221170
Sri B. N. Behera	Dy. Director of Mines Safety(Elect)	Mob:9471191862	
Sri G.L.Kanta Rao	DDG Electrical HQ		
Sri D.B.Nayak	DDG Mechanical HQ	2221002	9471192475

CENTRAL ZONE DHANBAD - 826001

FAX No. 0326-2221029 (DDG-CZ)

Name	Designation	Office	Res.	Mob. Number	E-mail
Sri Sanjibon Ray	Dy. Director General(Acting)	2221034	2221173	9471191223	sanjibonray@yahoo.com
Sri Ajay Singh	Director (Electrical)			9434670381	
Sri N.G.Phule	DDMS (Mechanical)			9534226677	ngphule@gmail.com
Sri Sandeep Shrivastava	DDMS (Mechanical)			9102992550	
Sri A.S. Singh	Law Officer	2221156			
Sri S. Puttaraju	DDMS(Elect)	2221031	2206768	9471191851	sputtaraju75@gmail.com
Region – I					
Sri S. Bagchi	DMS	2221033	2206735	9461919203	sbagchidgms@yahoo.com
Sri Manish Jayaswal	DDMS	2226003	2206766		
Sri R. A. Meena	DDMS	2221153	2206735	9471192159	meenaramawatar@gmail.com
Region – II					
Sri A.H. Ansari	DDMS	2221157		8603788898	altafhussainaksa@gmail.com
Region – III					
Sri C. R. Kumar	DMS	2221035	2206733	8986675278	ch_rameshkumar@rediffmail.com
Sri Dhananjay Kumar	DDMS	2221158	2206747	9471192373	
Sri Nayan Sinha	DDMS			9471192304	
Sri V. Kalundia	DDMS	2221154	2206769	9431964297	v.kalundia@gmail.com

EASTERN ZONE SITARAMPUR - 713359**FAX No. 0341-2510717**

Name	Designation	Office	Residence
Sri U.Saha	Dy. Director General	2510710	2510711
Sri S. G. Bhaisare	DDMS (Mech)	9434346323	9434346323
Sri Palanimalai C	DDMS(Elect)		9434071552
REGION-III, SITARAMPUR - 713359			
Sri Murlidhar Mishra	DDMS	2514219	2510719 / 9434070719

* Names DGMS officials of Eastern Zone of DGMS concerned with CV Area are included.

46. CONTACT NOS. OF CIL

NAME	DESIGNATION	OFFICE	FAX	E-MAIL
COAL INDIA LTD.	Coal Bhawan New Town, Rajarhat, Kolkata- 700156	www.coalindia.in/ www.coalindia.co.in/		
Shri S.Bhattacharya	Chairman, CIL	23246622	23246622	chairman@coalindia.in
Shri Chandan Kr Dey	Director(Finance)	23244104	23244154	dfcil@coalindia.in
Shri N . Kumar	Director(Technical)	23244024	23244082	dteil@coalindia.in
Shri R. Mohan Das	Director (P & IR)	23248888	23248000	dpcil@coalindia.in
Shri C.B.Sood	ED (S& R)	23244205	23244054	edsnr@coalindia.in

47. CONTACT NOS. BCCL HQ.

Sl. No	Name	Designation	Office	Residence	E-Mail
1	Sri N. kumar	CMD	2230112	033- 23244088	cmd@bccl.gov.in
2	Sri D.C.Jha	Director (Tech) OP	2230163	9470595111	dirop@bccl.gov.in
3	Sri B. K. Panda	Director(Personnel)	2230170	9470597900	dirper@bccl.gov.in
4	Sri K. Rajshekhar	Director (Finance)	2230167	9470599400	dirfin@bccl.gov.in
5	Sri B. S. Mishra	CVO	2230171	9470596400	cvo@bccl.gov.in
6	Sri R. N. Prasad	CGM(Coordination)	2230155	9470595112	cgmcoord@bccl.gov.in
7	Sri P. Ghosh	GM(E&M)	2230184	9470597146	cgmnm@bccl.gov.in
8	Sri. Keshav Gupta	CGM(Washery Div)	2222642	9470597410	cgmwashery@bccl.gov.in
9	Sri A. K. Chaudhary	GM(MM)	2230181	9470595238	cgmmm@bccl.gov.in
10	Sri A. K. Srivastava	GM I/C (S&R)	2230174	9470596309	cgmsafety@bccl.gov.in
11	Sri S.N. Sinha	HOD (Administration)	2230204	9470595525	hodadm@bccl.gov.in
12	Dr. (Miss) Alka Upreti	CMS	2207737	9470595554	cms@bccl.gov.in
13	Sri S.K. Singh	GM(U/G & Siding)	2230200	9470595221	gmug@bccl.gov.in

14	Sri. B.K. Parui	Company Secretary	2230190	947059 5346	cos@bccl.gov.in
15	Sri. S. Kudada	GM(P&IR)	2230204	947059 5470	gmpir@bccl.gov.in
16	Sri. C. S. Prasad	GM(WCD)	2230201	9470597204	gmwwz@bccl.gov.in
17	Sri.K.K. Tripathi	GM(Excavation)	2230177	9470596905	cgmexcvn@bccl.gov.in
18	Sri S.D. Shende	CGM(S&M)	2230276	9470595223	gmsales@bccl.gov.in
19	Sri S. Ghosh	GM (P&P)	2230276	947059 7402	tstodirpp@bccl.gov.in
20	Sri E.V.R. Raju	H.O.D.(Env)	2230188	9470595123	gmenv@bccl.gov.in
21	Sri Ashok Rao	GM(IED)		947059 5223	Gmied@bccl.gov.in

48. CONTACT NOS. OF CGM/GM OF AREAS

Sl. No	Name	Designation	Office	CUG NO.	E-Mail
1	Sri S. K. Mukhopadhyay	General Manager, Barora Area	2392075	9470596661	cgmbarora@bccl.gov.in
2	Sri Somen Chatterjee	General Manager, Block II Area	2392008	9470596605	Cgmblock2@bccl.gov.in
3	Sri R.K.Singh	General Manager, Govindpur Area	2392162	9470596041	cgmgovindpur@bccl.gov.in
4	Sri A.K. Dutta	General Manager, Katras Area	2372823	94705960002	cgmkatras@bccl.gov.in
5	Sri J.P. Gupta	General Manager, Sijua Area	2372204	9470595313	cgmsijua@bccl.gov.in
6	Sri A.K.Singh	General Manager, Kusunda Area	2307295	9470596401	cgmkusunda@bccl.gov.in
7	Sri K.C. Mihsra	General Manager, Pootki-Balihari Area	2330215	9470596090	cgmpe@bccl.gov.in
8	Sri R K Amar	General Manager, Western Jharia Area	2273483	9470595859	cgmwj@bccl.gov.in
9	Sri P.K. Dubey	General Manager, Bastacolla Area	2291155	9470596607	cgmbastacolla@bccl.gov.in
10	Sri P Chandra	General Manager, Lodna Area	2460653	9470596739	cgmlodna@bccl.gov.in
11	Sri R B Kumar	General Manager, Eastern Jharia Area	2320018	9470596324	cgmej@bccl.gov.in
12	Sri B.C. Nayak	General Manager, Chanch Victoria Area	06540-270076	9470597202	cgmcv@bccl.gov.in
13	Sri M N Jha	GM(Rescue)	2291380	9470595756	gmrescue@bccl.gov.in

49. CONTACT NOS. OF ISO BCCL CGM(S&R) Office – 0326 – 2230174 , FAX – 0326 2230176

1.	Shri A. K. Srivastava	GM I/C (S&R)	9470596309
2.	Shri M N Jha	GM(Rescue)	9470595756
3.	Shri M.N.Baranwala	Nodal Officer (Mining)	9470595810
4.	Shri S. K. Dey	Rescue Supdt.	9470595759
5.	Shri S.Mitter	Nodal Officer (Mining)	9470597435
6.	Shri H.S.P.Singh	Nodal Officer (Mining)	9470597064
7.	Shri Adish Yadav	Nodal Officer (Mining)	9470597469
8.	Shri B.K.Suman	Nodal Officer (E&M)	9470595152
9.	Shri B. K. Sinha	Nodal Officer (E&M)	9470599976
10.	Shri R.K. Raman	Nodal Officer (Mining)	9470596708
11.	Shri Sanjay Singh	Nodal Officer (Mining)	9470595535
12.	Shri N. Rai	Survey Officer	9470595325
13.	Shri Srikant Pd	Nodal Officer (Excvn.)	9470596980
14.	Shri R.N. Yadav	Nodal Officer (Excvn.)	9470597477
15.	Shri Somen Roy	Nodal Officer (Excvn.)	9470596771
16.	Shri D.K. Shrivastav	Nodal Officer (Excvn.)	9470596161

50. Names, Designations and Telephone Numbers of Rescue Services

Executive of Rescue Services (As on 5.04.2016)

1.	Sri A. K. Srivastava	GM I/C (S&R)	9470596309
2.	Sri M. N. Jha	GM(R)	9470595756
3.	Sri S.K. Dey	Rescue Suptdt	9470595759
4.	Sri S.K. Choudhary	Sr Manager (Min)	9470595758
5.	Sri P R Mukhopadhyay	--do--	9470596991
6.	Sri Ashok Kumar	Dy Mgr (Min)	9470595760
7.	Sri Sohail Ahmed	Asst Mgr (Min)	9470597013

Brigade Members at MRS Dhansar

1.	Sri Gurdhir Singh	Sr O/M	9430705326
2.	Sri R.D.Dey	Sr O/M	9835109206
3.	Sri Mahendra Ram	O/M	9931188285
4.	Sri Usman Ali	O/M	9835997164
5.	Sri Suresh Mandal	O/M	9546549709
6.	Sri S. G. Sah	O/M	9934343441
7.	Sri M.P.Gaur	O/M	9431377590
8.	Sri Ramanand Yadav	O/M	9507168069
9.	Md Isa Ansari	O/M	9431164724
10.	Sri Islam Mia	M/S	9835571259
11.	Sri S.G.Chakraborty	M/S	9334018750
12.	Sri P.C.Chauhan	M/S	9525109226
13.	Sri S.Adhikari	M/S	9708508314
14.	Sri Ranjay Kr Singh	M/S	8051084092
15.	Sri Shiv Avtar Prasad	R.B Maz	9934197983
16.	Sri Ajit Sinha	Electrician	9031810083
17.	Sri Desh Raj Prasad	Gen. Maz.	9471120512

RRRT SUDAMDIH

1.	Sri N K Jaiswal	Officer Inch. Mgr.(Mine)	9470597573
2.	Sri J.Ansari,	O/M	9708005635
3.	Sri Shailesh Kumar	O/M	9431508045
4.	Sri A. K. Mahatha	M/S	9808311754
5.	Sri R.S.Yadav	M/S	9835521052
6.	Sri Sukhdeo Bauri	M/S	9470333073
7.	Sri Ram P. Paswan	Brdg	9905155027
8.	Sri Nimai Rawani	Gen Maz	9835117737
9.	Sri Bibhisana Bauri	Gen Maz	

RR MOONIDIH

1.	Sri Fatik Mondal	O/M	9097052366
2.	Sri S.K.Singh,	O/M	9608709332
3.	Sri H.K.Mahto	O/M Incharg	9431316607
4.	Sri D.K. Pandey	O/M	9470838345
5.	Sri Naresh Pd. Mahto	M/S	7654186322
6.	Sri Sadruddin Ansari	Gen. Maz	9934153127
7.	Sri Gyasuddin Ansari	Brdg.	9939934425

RR MADHUBAN

1.	Sri V.K.Tiwari	O/M In.charg	9931562428
2.	Sri Pawan Kumhar	O/M	8757758191
3.	Sri R.C.Ram	M/S	9931325245
4.	Sri Santosh Kr Mahto	Fitter Helper	8969549788
5.	Sri Gulba Napit	SDL OP	7250782511

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