

MINISTRY OF LABOUR AND EMPLOYMENT
NOTIFICATION

New Delhi, the 29th December, 2011

S.O. 2921(E).—In pursuance of Section 27 of the Mines Act, 1952 (35 of 1952) of the Central Government hereby publishes, as Appendix to this Notification the following report submitted to it under sub-section (4) of Section 24 of the said Act by the Court of Inquiry appointed to hold and inquiry into the causes and circumstances attending the accident which occurred on 06-05-2010 at Anjan Hill Mine of M/s. South Eastern Coalfields Limited in District Korea of Chattisgarh State.

“Report of the Court of Inquiry into the major accident involving 14 persons at Anjan Hill Mine of M/s. South Eastern Coalfields Limited on 06-05-2010”.

[F.No. Z-16025/85/2010-ISH.II]

A.C. PANDEY, Jr. Secy.

APPENDIX

Shri Justice P. Vishwanatha Shetty Court of Inquiry
Report of the Court of Inquiry into the major accident which occurred on 06-05-2010 at Anjan Hill Mine of M/s. South Eastern Coalfields Limited in District Korea of Chhatisgarh State.

Report of the Court of Inquiry constituted by Government of India (Ministry of Labour & Employment) by means of notification dated 28th February 2011.

Dated 7th September, 2011

New Delhi

**Report of the Court of Inquiry constituted by Government of India
(Ministry of Labour & Employment) by means of notification dated 28th
February 2011.**

Chairman: Hon'ble Justice P. Vishwanatha Shetty,
Former Judge, High Court of Karnataka

Assessors: (i) Shri Shiv Kumar Dubey, General Secretary,
Bhartiya Koyala Khadan Mazdoor Sangh
(ii) Shri Satinder Kumar, Former Chief Inspector of Mines,
Government of India

1.0 Introduction:

1.1 An accident occurred at Anjan Hill Mine of M/s South Eastern Coalfields Ltd in Korea District, Chhattisgarh State on 6th May 2010 at about 11:30 am causing death of 14 persons, inflicting serious bodily injuries to 5 persons and minor injuries to 26 persons. With reference to the said accident, the Court of Inquiry has been instituted by the Government of India.

1.2 The Government of India appointed a Court of Inquiry with Hon'ble Justice P. Vishwanatha Shetty, former Judge, High Court of Karnataka as Chairman and Shri S. K. Dubey & Shri S. Kumar as assessors to hold an inquiry into causes and circumstances attending the accident and present a report within a period of three months, by means of Notification no. S.O. 456 (E) dated 28th February 2011 published in the Gazette of India (Extra Ordinary) on 1st March 2011. It is useful to refer to the relevant portion of the notification which reads as herein below:

"S.O.456 (E) - Whereas an accident has occurred in the Anjan Hill Mine of M/s South Eastern Coalfields Limited, in District Korea of Chhattisgarh state on 6th May 2010 causing loss of lives.

And whereas the Central Government is of the opinion that a formal inquiry into the causes and the circumstances attending the accident ought to be held.

Now therefore, in exercise of the powers conferred by sub-section (1) of Section 24 of The Mines Act, 1952 (35 of 1952), Central Government hereby appoints Justice P. Vishwanatha Shetty (Retd.), Former Judge, High

Court, Karnataka to hold such inquiry and present a report within a period of three months. The Central Government also appoints the following persons as assessor in holding of the inquiry, namely-

- (i) Shri Shiv Kumar Dubey, General Secretary, Bhartiya Koyala Khadan Mazdoor Sangh.
- (ii) Shri Satinder Kumar, Ex Chief Inspector of Mines.

[F. No. Z-16025/85/2010-ISH-II]

A. C. Pandey

Joint Secretary to the Government of India”

- 1.3 Shri M. Satyamurty, Deputy Director Mines Safety was appointed as Secretary to the Court of Inquiry vide Ministry of Labour and Employment's letter No. letter no. Z-16025/85/2010-ISH-II dated 8th March 2011.
- 1.4 By means of subsequent notification dated 7th June 2011, the period given to the Court of Inquiry was extended from 28th May 2011 to 27th August 2011 or till the date/day on which the report of inquiry is submitted, whichever is earlier. Thereafter, by means of another notification dated 6th September 2011, the period given to the Court of Inquiry was further extended till 27th September 2011.
- 1.5 On receipt of first notification on 14th March 2011, Hon'ble Justice P. Vishwanatha Shetty assumed the charge as Chairman of the Court of Inquiry on 15th March 2011. Both the assessors also assumed the charge on the said date.
- 2.0 Before the Court of Inquiry proceeds to discuss the causes and circumstances attending to the accident that occurred on 6th May 2010, it

will be useful to refer to the background of Anjan Hill Mine and also the background of the management which has been carrying on mining operations at Anjan Hill Mine.

Background of the Mine

- 2.1 Anjan Hill Mine, part of Chirimiri Area of M/s South Eastern Coalfields Limited, (hereinafter referred to as SECL), is in Korea District of Chhattisgarh State and located at about 225 km from Bilaspur and at a distance about 8 km from Chirimiri Township.
- 2.1.1 It is on record that Anjan Hill Mine was being managed and exploited by SECL, which is a subsidiary company of M/s Coal India Limited (CIL), a public sector undertaking of the Government of India. The SECL was incorporated under the Companies Act, 1956, as public limited company on 28th November 1985. SECL is carrying on mining operations in an area spread out in 92 mines, out of which 70 are underground mines, located in the States of Chhattisgarh and Madhya Pradesh. It is on record that in all the mines put together the manpower strength of SECL is to the tune of about 79,000 (seventy nine thousands) and that of in Anjan Hill Mine, the manpower strength including senior officers is 1,050 (one thousand and fifty). Out of them workmen alone would constitute about 900 (nine hundred).
- 2.1.2 All the persons employed by SECL are associated with coal production either directly or indirectly by providing support to production activities. The manpower including direct and indirect work force can be broadly described

in to three categories, namely Managerial, Supervisory and Workmen. Currently 62,355 (sixty two thousands) Workmen, 14,592 (fourteen thousand five hundred ninety two) Supervisors and 2,657 (two thousand six hundred fifty seven) Officers are engaged in coal production activities.

2.1.3 The production of SECL & that of Anjan Hill Mine and net profit of SECL & that of Anjan Hill Mine for the last five years have been as follows:

YEAR	PRODUCTION (in thousand tonnes)		NET PROFIT (in Rs crore)	
	SECL	Anjan Hill Mine	SECL	Anjan Hill Mine
2009-10	108,010	379	3,063.57	1.52
2008-09	101,150	281	1,817.93	- 16.00
2007-08	93,790	273	2,067.37	- 2.40
2006-07	88,500	249	1,777.82	- 0.09
2005-06	83,056	231	1,286.12	0.46

Background of Management

2.2 Both the holding company and the subsidiary company are managed by separate Board of Directors. Though the Chairman cum Managing Director of SECL was the Chief Executive Officer of the company, one of the Directors on the Board was nominated as owner of Anjan Hill Mine under Section 76 of the Mines Act, 1952 (hereinafter referred to as the Act). Mine was managed by a qualified Mine Manager. Several officials administratively placed between the nominated owner and mine manager are discharging direct and supporting functions of the management of the company and acting as agents / deemed agents in respect of Anjan Hill mine.

2.2.1 As mandated by Section 17 of the Act, duly qualified person was being appointed as Manager for exercising control over the mine and one Shri J. N.

Dash was appointed as manager of Anjan Hill Mine. In the hierarchy of corporate management functioning, notwithstanding their statutory obligations and duties of overall management, control, supervision imposed on the Manager, he has to report about the functioning of the mine to his superior officer in the mine called as Sub-Area Manager or Agent. Section 2(c) of Act defines 'Agent'. The said section reads as follows:

2.2.1.1 Section 2(c): "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.

2.2.2 The duties and responsibilities of owner, agent and manager are set out in Section 18 of the Act. It is useful to extract Section 17 of the Act which provides for appointment of manager and Section 18 of the Act which provides for duties and responsibilities of owner, agent and manager

2.2.2.1 Section 17: Managers.

(1) Save as may be otherwise prescribed, every mine shall be under a sole manager who shall have the prescribed qualification and the owner or agent of every mine shall appoint a person having such qualification to be the manager:

Provided that the owner or agent may appoint himself as manager if he possesses the prescribed qualifications.

(2) Subject to any instructions given to him by or on behalf of the owner or agent of the mine, the manager shall be responsible for the overall

management, control, supervision and direction of the mine and all such instructions when given by the owner or agent shall be confirmed in writing forthwith.

(3) Except in case of an emergency, the owner or agent of mine or anyone on his behalf shall not give, otherwise than through the manager, instructions affecting the fulfillment of his statutory duties, to a person, employed in a mine who is responsible to the manager.

2.2.2.2 Section 18: Duties and responsibilities of owners, agents and managers.

(1) The owner and agent of every mine shall each be responsible for making financial and other provisions and for taking such other steps as may be necessary for compliance with the provisions of this Act and the regulations, rules, bye-laws and orders made thereunder.

(2) The responsibility in respect of matters provided for in the rules made under clauses (d), (e) and (p) of section 58 shall be exclusively carried out by the owner and agent of the mine and by such person (other than the manager) whom the owner or agent may appoint for securing compliance with the aforesaid provisions.

(3) If the carrying out of any instructions given under sub- section (2) or given otherwise than through the manager under sub- section (3) of section 17, results in the contravention of the provisions of this Act or of the regulations, rules, bye-laws or orders made thereunder, every person giving such instructions shall also be liable for the contravention of the provisions concerned.

(4) Subject to the provisions of sub-sections (1), (2) and (3), the owner, agent and manager of every mine shall each be responsible to see that all operations carried on in connection with the mine are conducted in accordance with the provisions of this Act and of the regulations, rules, bye-laws and orders made thereunder.

(5) In the event of any contravention by any person whosoever of any of the provisions of this Act or of the regulations, rules, bye-laws or orders made thereunder except those which specifically require any person to do any act or thing or prohibit any person from doing an act or thing, besides the person who contravenes, each of the following persons shall also be deemed to be guilty of such contravention unless he proves that he had used due diligence to secure compliance with the provisions and had taken reasonable means to prevent such contravention:-

- (i) the official or officials appointed to perform duties of supervision in respect of the provisions contravened;
- (ii) the manager of the mine;
- (iii) the Owner and agent of the mine;
- (iv) the Person appointed, if any, to carry out the responsibility under sub-section (2):

Provided that any of the persons aforesaid may not be proceeded against if it appears on inquiry and investigation, that is not Prima facie liable.

(6) It shall not be a defense in any proceedings brought against the owner or agent of a mine under this section that the manager and other officials

have been appointed in accordance with the provision of this Act or that a person to carry the responsibility under sub-section (2) has been appointed.

2.2.3 In addition to Sub-Area Manager, there are multiple administrative or reporting levels in the hierarchy between the manager and the nominated owner. As stated earlier, the Act has defined such officials as deemed agents who are subordinate to the owner and superior to the manager and share the same responsibility as that of an Agent. These levels of officers or deemed Agents have been entrusted with defined roles and responsibilities in the company, but instructions from top downwards do not strictly follow the line of command.

2.2.4 A separate wing known as Internal Safety Organisation (hereinafter known as ISO) was functional at the corporate level in the company which was entrusted with the responsibility of procurement of items related to safety of workmen & their work place and necessary for ensuring compliance of the provisions of the Act and Regulations & Rules made thereunder. In addition, officials of ISO made frequent inspections of mines and took all sorts of initiatives for inculcating safe practices among workmen, supervisors and officials. Other activities of the ISO included provisioning of rescue services through establishment & operation of Rescue Stations / Rescue Rooms. Manendragarh Rescue Station was located at a distance of about 40 km from Anjan Hill Mine and a Rescue Room was functional at the mine site. Rescue Station at Manendragarh also had the facility for analysing of air

samples using gas chromatograph. Gas chromatograph is an equipment which analyses multiple gases in the sample even to the minutest extent.

2.2.5 Section 2(l) defines who is an 'Owner'. The said section reads as follows:

"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 a liquidator or receiver such liquidator or receiver but does not include a person who merely receives a royalty, rent or fine from the mine, or is merely the proprietor of the mine, subject to any lease, grant or license for the working thereof, or 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;

2.2.5.1 Section 76: Determination of owner in certain cases.

Where the owner of a mine is a firm or other association of individuals, all, or any of the partners or members thereof or where the owner of a mine is a company, all or any of the directors thereof or where the owner of a mine is a Government or any local authority, all or any of the officers or persons authorised by such Government or local authority, as the case may be, to manage the affairs of the mine, may be prosecuted and punished under this Act for any offence for which the owner of a mine is punishable:

Provided that where a firm, association or company has given notice in writing to the Chief Inspector that it has nominated-

- (a) in the case of a firm, any of its partners or managers;
- (b) in the case of an association, any of its members or managers;
- (c) in the case of a company, any of its directors or managers,

Who is resident, in each case in any place to which this Act extends and who is in each case either in fact in charge of the management of, or holds the largest number of shares in such firm, association or company, to assume the responsibility of the owner of the mine for the purposes of this Act, such partner, member, director or manager, as the case may be, shall, so long as he continues to so reside and be in charge or hold the largest number of shares as aforesaid, be deemed to be the owner of the mine for the purposes of this Act unless a notice in writing cancelling his nomination or stating that he has ceased to be a partner, member, director or manager, as the case may be, is received by the Chief Inspector.

Explanation.-Where a firm, association or company has different establishments or branches or different units in any establishment or branch, different persons may be nominated under this proviso in relation to different establishments or branches or units and the person so nominated shall, with respect only to the establishment, branch or unit in relation to which he has been nominated, be deemed to be the owner of the mine.

2.2.6 Shri P. K. Roychoudhary was appointed and nominated as 'Owner' and one Shri K. C. Paul was appointed as 'Agent' of Anjan Hill Mine prior to the accident. One Shri S. S. Malhi was appointed as Chief General Manager and one Shri S. K. Goswami was appointed as General Manager of Anjan Hill

Mine prior to the accident. They continued in their positions on the date of accident that occurred in Anjan Hill Mine on 6th May 2010. It is relevant to point out that Office of the Chief General Manager and General Manager are higher in corporate set up to that of Manager. From the scheme of the Act, said officials for all practical purposes are considered and treated as 'agents'. The said S. K. Goswami is one of the persons who died in the accident that occurred in Anjan Hill Mine on the morning of 6th May 2010 while standing on the surface near the entrance of the mine alongwith many others. Section 18 of the Act referred to above sets out statutory responsibilities of the owner also. It is also relevant to refer to the hierarchy of officers who were entrusted various responsibilities and duties while carrying on mining operation at Anjan Hill Mine. In compliance with provisions of the Coal Mines Regulations, 1957, the Manager was assisted by duly qualified persons appointed as Safety Officer, Ventilation Officer, Assistant Managers, Overman and Mining Sirdars. Following officers were holding positions below the office of the Manager of Anjan Hill Mine on 6th May 2010:

- a. Shri T. K. Dubey, appointed as Safety Officer under Regulation 31A of Coal Mines Regulations, 1957;
- b. Shri S. V. P. Singh, appointed as Ventilation Officer under Regulation 32A of Coal Mines Regulations, 1957;
- c. Shri S. Lomga, appointed as Assistant Manager under Regulation 32 of Coal Mines Regulations, 1957;

- d. Shri B. K. Pandey, appointed as Assistant Manager under Regulation 32 of Coal Mines Regulations, 1957;
- e. Shri S. R. Nunes, appointed as Assistant Manager under Regulation 32 of Coal Mines Regulations, 1957;
- f. Shri S. B. Singh, appointed as Under Manager under Regulation 32 of Coal Mines Regulations, 1957;
- g. Shri Abhijeet Sil, appointed as Under Manager under Regulation 32 of Coal Mines Regulations, 1957;
- h. Shri Z. Sailo, appointed as Under Manager under Regulation 32 of Coal Mines Regulations, 1957;
- i. Shri B. K. Jha, appointed as Colliery Engineer under Regulation 33 of Coal Mines Regulations, 1957;
- j. Shri Anil Kumar, appointed as Colliery Engineer under Regulation 33 of Coal Mines Regulations, 1957;
- k. Shri G. N. Hikare, appointed as Colliery Engineer under Regulation 33 of Coal Mines Regulations, 1957;
- l. Shri S. K. Sinha, appointed as Colliery Surveyor under Regulation 35 of Coal Mines Regulations, 1957;
- m. Shri Santosh Kumar, appointed as Under Manager under Regulation 32 of Coal Mines Regulations, 1957.

2.2.7 Chief General Manager, General Manager and Manager are generally assisted by qualified persons as referred to above. From the scheme of the Act and Rules & Regulations framed thereunder, it is apparent that detailed

provisions are made and obligations and responsibilities are cast on various officers in a mine and also on Director General of Mines Safety (hereinafter known as DGMS) for the safety, health and welfare of workmen working in the mine. Such officials are required to take all precautions and effective steps to protect the interest including safety of the workmen who work in the mines. At this stage it is relevant to point out that sub-section 5 of Section 18 of the Act extracted above provides that in the event of any contravention by any person of any of the provisions of the Act and Regulations & Rules made thereunder, such person is deemed to be guilty of such contravention unless he proves that he has used due diligence to secure compliance with the provisions and had taken reasonable means to prevent such contraventions. The object and purpose behind sub-section 5 of Section 18 is to see that everyone who is in-charge of managing the mines takes care and precaution to see the provisions of the Act and Regulations & Rules made thereunder are strictly adhered to so that to a large extent it would prevent any untoward incident taking place in the mines. Therefore, while assessing materials on record the Court of Inquiry will have to keep in mind whether such a care and precaution has been taken by the persons who were in management of mine on the date of accident.

2.3 In this background, it is useful to extract few more provisions of the Act and Rule & Regulations made thereunder which may have bearing on questions

that may arise during the course of our discussion. They read as herein under:

2.3.1 The Mines Act, 1952

2.3.1.1 Section 6: Functions of inspectors.

(1) The Chief Inspector may, with the approval of the Central Government and subject to such restrictions or conditions as he may think fit to impose, by order in writing: authorise any Inspector named or any class of Inspectors specified in the order to exercise such of the powers of the Chief Inspector under this Act (other than those relating to appeals) as he may specify.

(2) The Chief Inspector may by order in writing, prohibit or restrict the exercise by any Inspector named or any class of Inspectors specified in the order of any power conferred on Inspectors under this Act.

(3) Subject to the other provisions contained in this section, the Chief Inspector shall declare the local area or areas within which or the group or class of mines with respect to which Inspector shall exercise their respective powers.

2.3.1.2 Section 7: Powers of Inspectors of Mines

(1) The Chief Inspector and any Inspector may –

(a) make such examination and inquiry as he thinks fit, in order to ascertain whether the provisions of this Act and of the regulations, rules and bye-laws and of any orders made there under are observed in the case of any mine;

(b) with such assistants, if any, as he thinks fit, inspect and examine any mine or any part thereof at any time by day or night:

Provided that the power conferred by this clause shall not be exercise in such a manner as unreasonably to impede or obstruct the working of mine.

(c) examine into, and make inquiry respecting, the state and condition of any mine, or any part thereof, the ventilation of the mine, the sufficiency of the bye-laws for the time being in force relating to the mine and all matters and things connected with or relating to the health, safety and welfare of the persons employed in the mine, and take whether on the precincts of the mine or elsewhere statements of any person which he may consider necessary for carrying out the purpose of this Act;

(d) exercise such other powers as may be prescribed by regulation made by the Central Government in this behalf.

Provided that no person shall be compelled under this sub-section to answer any question or make any statement tending to incriminate himself,

(2) The Chief Inspector and any Inspector may, if he has reason to believe as a result of any inspection examination or inquiry under this section, that an offence under this Act has been or is being committed, search any place and take possession of any material or any plane section register other records appertaining to the mine and the provisions of the Code of Criminal Procedure 1973 shall, so far as may be applicable, applied to any search or seizure made under this Act as to apply to any search or seizure made under the authority of a warrant issued under section 94 of the code.

2.3.1.3 Section 22. Powers of Inspectors when causes of danger not expressly provided against exist or when employment of persons is dangerous.

(1) If, in respect of any matter for which no express provision is made by or under this Act, it appears to the Chief Inspector or an Inspector that any mine or part thereof or any matter, thing or practice in or connected with the mine, or with the control, supervision, management or direction thereof, is dangerous to human life or safety or defective so as to threaten, or tend to, the bodily injury of any person, he may give notice in writing thereof to the owner, agent or manager of the mine and shall state in the notice the particulars in respect of which he considers the mine or part thereof or the matter, thing or practice to be dangerous or defective and require the same to be remedied within such time and in such manner as he may specify in the notice.

(IA) Where the owner, agent or manager of a mine fails to comply with the terms of a notice given under sub-section (1) within the period specified therein, the Chief Inspector or the Inspector, as the case may be, may, by order in writing, prohibit the employment in or about the mine or any part thereof of any person whose employment is not in his opinion reasonably necessary for securing compliance with the terms of the notice.

(2) Without prejudice to the provisions contained in sub-section (1), the Chief Inspector or the Inspector, as the case may be, may, by order in writing addressed to the owner, agent or manager of a mine, 'Prohibit the extraction or reduction of pillars or blocks of minerals in any mine or part

thereof, if, in his opinion, such operation is likely to cause the crushing of pillars or blocks of minerals or the premature collapse of any part of the workings or otherwise endanger the mine or the life or safety of persons employed therein or if, in his opinion, adequate provision against the outbreak of fire or flooding has not been made by providing for the sealing off and isolation of the part of the mine in which such operation is contemplated and for restricting the area that might be affected by fire or flooding.

(3) If the Chief Inspector, or an Inspector authorised in this behalf by general or special order in writing by the Chief Inspector, is of opinion that there is urgent and immediate danger to the life or safety of any person employed in any mine or part thereof, he may, by order in writing containing a statement of the grounds of his opinion, prohibit, [until he is satisfied that the danger is removed the employment in or about the mine or any part thereof of any person whose employment is not in his opinion reasonably necessary for the purpose of removing the danger.

(3A) Every person whose employment is prohibited under sub- section (IA) or sub-section (3) shall be entitled to payment of full wages for the period for which he would have been, but for the prohibition in employment and the owner, agent or manager shall be liable for payment of such full wages of that person:

Provided that the owner, agent or manager may instead of paying such full wages provide such person with an alternative employment at the same

wages which such person was receiving in the employment which was prohibited.

(4) Where a notice has been given under sub-section (1) or an order made under sub-section (IA), sub-section (2) or sub-section (3) by an Inspector, the owner, agent or manager of the mine may, within ten days after the receipt of the notice or order, as the case may be, appeal against the same to the Chief Inspector who may confirm, modify or cancel the notice or order.

(5) The Chief Inspector or the Inspector sending a notice under sub-section (1) or making an order under sub-section (IA), sub-section (2) or sub-section (3) and the Chief Inspector making an order (other than an order of cancellation in appeal) under sub-section (4) shall forthwith report the same to the Central Government.

(6) If the owner, agent or manager of the mine objects to a notice sent under sub-section (1) by the Chief Inspector or to an order made by the Chief Inspector under sub-section (IA) or sub-section (2) or sub-section (3) or sub-section (4), he may, within twenty days after the receipt of the notice containing the requisition or of the order or after the date of the decision on appeal, as the case may be, send his objection in writing stating the grounds thereof to the Central Government which shall ordinarily within a period of two months from the date of receipt of the objection, refer. (7) Every notice under sub-section (1), or order under sub-section (IA), sub-section (2), sub-section (3) or sub-section (4), to which objection is made under sub-section

(6), shall be complied with, pending the receipt at the mine of the decision of the Committee:

Provided that the Committee may, on the application of the owner, agent or manager, suspend the operation of a notice under sub-section (1), pending its decision on the objection.

(8) Nothing in this section shall affect the powers of a magistrate under section 144 of the Code of Criminal Procedure, 1898.

2.3.1.4 Section 22A: Power to prohibit employment in certain cases.

(1) Where in respect of any matter relating to safety for which express provision is made by or under this Act, the owner, agent or manager of a mine fails to comply with such provisions, the Chief Inspector may give notice in writing requiring the same to be complied with within such time as he may specify in the notice or within such extended period of time as he may, from time to time, specify thereafter.

(2) Where the owner, agent or manager fails to comply with the terms of a notice given under sub-section (1) within the period specified in such notice or, as the case may be, within the extended period of time specified under that sub-section, the Chief Inspector may, by order in writing, prohibit the employment in or about the mine or any part thereof of any person whose employment is not, in his opinion, reasonably necessary for securing compliance with the terms of the notice.

(3) Every person whose employment is prohibited under sub-section (2), shall be entitled to payment of full wages for the period for which he would have been, but for the prohibition, in employment, and the owner, agent or manager shall be liable for payment of such full wages of that person: Provided that the owner, agent or manager may, instead of paying such full wages, provide such person with an alternative employment at the same wages which such person was receiving in the employment which was prohibited under sub-section (2).

(4) The provisions of sub-sections (5), (6) and (7) of section 22 shall apply in relation to a notice issued under sub-section (1) or an order made under sub-section (2) of this section as they apply in relation to a notice under sub-section (1) or an order under sub-section (IA) of that section.

2.3.1.5 Section 24: Power of Government to appoint Court of Inquiry in cases of accidents.

(1) Power of Government to appoint Court of Inquiry in cases of accidents. When any accident of the nature referred to in any of the clauses of sub-section (1) of section 23 occurs in or about a mine, the Central Government may, if it is of opinion that a formal inquiry into the causes of and circumstances attending the accident ought to be held, appoint a competent person to hold such inquiry and may also appoint one or more persons possessing legal or special knowledge to act as assessor or assessors in holding the inquiry.

(2) The person appointed to hold any such inquiry shall have all the powers of a Civil Court under the Code of Civil Procedure, 1908, for the purpose of enforcing the attendance of witnesses and compelling the production of documents and material objects.

(3) Any person holding an inquiry under this section may exercise such of the powers of an Inspector under this Act as he may think it necessary or expedient to exercise for the purposes of the inquiry.

(4) The person holding an inquiry under this section shall make a report to the Central Government stating the causes of the accident and its circumstances, and adding any observations which he or any of the assessors may think fit to make.

2.3.1.6 Section 72: Obligation of persons employed in a mine.

No person employed in a mine shall-

(a) willfully interfere with or misuse any appliance, convenience or other thing provided in a mine for the purpose of securing the health, safety or welfare of the persons employed therein;

(b) willfully and without reasonable cause do anything likely to endanger himself or others;

(c) willfully neglect to make use of any appliance or other thing provided in the mine for the purpose of securing the health or safety of the persons employed therein.

2.3.1.7 Section 78: Power of Court to make orders.

(1) Where the owner, agent or manager of a mine is convicted of an offence punishable under this Act, the Court may, in addition to awarding him any punishment, by order in writing, require him within a period specified in the order (which may be extended by the Court from time to time on application made in this behalf) to take such measures as may be so specified for remedying the matters in respect of which the offence was committed.

(2) Where an order is made under sub-section (1), the owner, agent or manager of the mine, as the case may be, shall not be liable under this Act in respect of the continuance of the offence during the period or extended period, if any, but if on the expiry of such period or extended period the order of the Court has not been fully complied with, the owner, agent or manager, as the case may be, shall be deemed to have committed a further offence and shall be punishable with imprisonment for a term which may extend to six months, or with fine which may extend to one hundred rupees for every day after such expiry on which the order has not been complied with, or with both.

2.3.2 Coal Mines Regulations, 1957 framed under Section 57 of the Act:

2.3.2.1 Regulation 100A: Extraction of coal by method other than the Bord and Pillar system. Where in any mine or part thereof it is proposed to extract coal by a system other than the bord and pillar system, the owner, agent or manager shall give notice in writing of the proposed system of working to the Chief Inspector and the Regional Inspector in Form III of the Third Schedule and

no such system shall be commenced or carried out except with the permission in writing and in accordance with such conditions as the Chief Inspector may specify by an order in writing.

2.3.2.2 Regulation 103: Powers of Inspectors.

If in any mine or part thereof, it appears to the Regional Inspector that the provisions of regulations 98, 99, 100 and 102 or of any order issued under any of these regulations have not been complied with, he may give notice in writing to the owner, agent or manager requiring him to take such protective measures, within such time as he may specify in the notice. In case of non-compliance with the requirements of the notice, the Regional Inspector may, by an order in writing, prohibit the extraction of coal in the part or parts of the mine in which protective measures are required to be taken, until the requirements specified in the notice are complied with.

2.3.2.3 Regulation 103A: Pointing out contraventions during inspections

(1) If the Chief Inspector or an Inspector, during his inspection of any mine, finds or comes to know of any contravention of any provisions of Act or the regulations, rules, byelaws of orders made thereunder, he shall enter such contravention in an inter leafed paged and bound register kept for the purpose at the mine, in Form VI and shall also point out such contravention to the owner, agent or manager, it present on the spot. The Chief Inspector or the Inspector making the entry in the Register aforesaid shall duly sign such entries with date, and take a carbon copy of the entries for his record:

Provided that the Chief Inspector or the Inspector need not enter such contraventions which require confirmation after a survey or other further examination and he may subsequently intimate the owner, agent or manager, specifying the contraventions, if confirmed, and also any other contraventions which were, by inadvertence, not entered in the register aforesaid:

Provided further that an entry made in the register or the absence of an entry therein as also a communication in pursuance with the aforesaid proviso or absence thereof shall not in any way limit the duties or obligations of a person under the Act or the regulations, rules, bye-laws or orders made thereunder.

- (2) When an entry is made in the register –
 - (a) the owner, agent and manager shall each be deemed to know what is contained in that entry; and
 - (b) a copy thereof shall be displayed within three days of the date of such entry on the notice board of the mine for not less than fifteen days.
- (3) The owner, agent or manager of the mine shall return one copy, within a period not exceeding fifteen days from the date of the entry, to the Chief Inspector or the Inspector who made the entry with remarks thereon showing the action taken to remedy the contravention and the date on which such action was taken.
- (4) The register –

(a) shall be kept available for inspection in the office of the mine for a period of at least three years after the date of making of the last entry in it; and

(b) shall not be removed there from before the expiry of the aforesaid period, except by or with approval in writing of the Regional Inspector.

2.3.2.4 Regulation 118A: Further precautions against spontaneous heating.

The following further precautions shall be taken against the danger of spontaneous heating

(1)(a) The seam or section shall be worked in panels having independent ventilation in such a manner that it is possible to isolate one from another easily if necessary. Where development has already been made without regard to this factor, artificial panels should be created by the construction of stoppings. In determining the size of the panel due consideration shall be given to the desirability of enabling complete extraction of the pillars therein within the incubation period of the coal.

(b) No coal, shale or other carbonaceous material shall be left or stacked underground.

Where removal of fallen coal out of the mine is not practicable, the area shall be effectively sealed off.

(c) Except where otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, no extraction of pillars in any seam or section shall be commenced until fire dams or stoppings have been provided in all entrance to the panel, except

that in the fire dams or stoppings built in entrances which are to be kept open for ventilation or haulage suitable doors or openings may be left and bricks and other suitable materials shall be kept readily available their vicinity. Shale or other carbonaceous material shall not be used in the construction of fire dams or stoppings;

(d) A panel be isolated by adequate stoppings as soon as it has been goaved out.

(2) Sufficient material for dealing with fire shall be kept in readiness at suitable places underground for transport and use. A sufficient number of persons shall be trained in the use of this material.

(3)(a) In order that spontaneous heating is detected in early stages, the air in the return airway of every depillaring district, and of every goal which has not been isolated, shall be;

(i) tested for percentage of carbon monoxide once at least in every seven days with an automatic detector of a type approved by the Chief Inspector; and

(ii) completely analysed once at least in every 30 days with a view to determining the ratio Carbon mono-oxide (CO) formed / Oxygen (O₂) absorbed.

The result of every such tests shall be recorded in a bound paged book kept for the purpose and shall be signed and dated by the person carrying out the test.

(b) If successive tests show any steady increase in the Carbon mono-oxide -formed Oxygen-absorbed ratio, suitable measures shall be taken to determine the site of the heating and to deal with it.

(c) Every depillaring district shall be inspected on every idle day, and all unused workings which have not been sealed off shall be inspected once at least in every seven days, by a competent person for any fire risks. The isolation stoppings built around goaved out areas and unused workings shall be inspected at similar intervals. A report of every such inspection shall be recorded in a bound paged book kept for the purpose, and shall be signed and dated by the person making the inspection.

(4) Where at any mine or part special conditions exist which make compliance with any of the provisions of this regulation not necessary or reasonably practicable, the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant a relaxation from the provision.

2.3.3 Mines Rescue Rules, 1988 framed under Section 58 of the Act:

2.3.3.1 Rule 2 (m): "Principal Officer means the senior most mine official in mining discipline on duty in the mine;

2.3.3.2 Rule 24: Duties of Manager etc in emergency.

(1) On receiving information about any emergency likely to require the services of a rescue team, the manager, or in his absence the Principal Officer present at the surface shall immediately:-

- (a) Inform the rescue room or the rescue station serving the mine for necessary assistance;
 - (b) Summon rescue trained persons employed in the mine;
 - (c) Inform owner, agent or manager of nearby mines to make available the services of rescue trained persons employed therein: if so required;
 - (d) Inform the rescue station about nature of incidence
 - (e) Summon medical assistance
 - (f) Send information of the occurrence to the Regional Inspector.
- (2) All rescue and recovery work shall be placed under the control, supervision and direction of Manager or in his absence the principal officer present at the surface.

Provided that in the case of major emergency, such as ignition, explosion, big underground fire or an accident involving a large number of persons, the manager or the principal officer shall, in taking decisions regarding rescue and recovery operations, take guidance from a group consisting of a Senior Official of the management, a representative each from the Directorate General of Mines Safety, concerned rescue station and the recognized Union of Workers, so however that he must take decisions and direct the operations as situation warrants, without waiting for the constitution or deliberation of the said group.

2.3.3.3 Rule 26: Entry in to underground mines for rescue or recovery work.

(1) No person shall be allowed to enter a underground mine or part thereof which is unsafe for the purpose of engaging in rescue or recovery work, unless authorised by the Manager or in his absence by the principal official of the mine present on the surface. Only rescue trained persons shall be permitted to enter the mine for the purpose of using self-contained breathing apparatus.

(2) During the course of rescue or recovery work, person or persons shall be stationed at the entrance to the underground mines and shall keep a written record of all persons entering and leaving the mine, and the time thereof.

2.3.4 Mines Rules, 1955 framed under Section 58 of the Act:

2.3.4.1 Rule 21: Court of Inquiry to be public.

The persons appointed to hold the inquiry shall hold the inquiry in public in such a manner under such conditions court thinks most effectual for ascertaining the causes and circumstances of the accident or other occurrences and for enabling the court to make the report.

2.3.4.2 Rule 22: Recovery of expenses.

(1) If the court of inquiry finds that the accident was due to carelessness or negligence on the part of the management the court may direct recovery of expenses of such court including any expenses incurred with the previous sanction of the court or any other expenses connected with the enquiry which the court may direct recoverable from the owner, agent or manager

of the mine concerned, in such manner and within such time as the court may specify

(2) The amount directed to be recovered under sub rule (1) may, on application by the Chief Inspector or an Inspector to the concerned authority, be recovered from the owner in the same manner as an arrears of land revenue.

3.0 The Court of Inquiry finds that it is appropriate to refer to the geology and topography of Anjan Hill Mine followed by method of working, system of ventilation and rescue in the mine so that one can visualise the working condition.

3.1 Geology & Topography:

3.1.1 Chirimiri coalfield was marked by highly undulating surface with high hills and steep faces. Numerous streamlets, flowing from the Anjan Hill in radial directions, constituted the main drainage pattern. Ground elevation varied from 625 m in the eastern part to 870 m in central part of the Anjan Hill.

3.1.2 The Anjan Hill block formed an isolated closed Sub-basin within the main Chirimiri basin. The rock belonged to Barakar formation of Lower Gondwana Group. The thickness of weathered mantle ranged between 32 m to 52.5 m and that of Barakars varied from 43 m to 133.03 m.

3.1.3 Barakar formation predominantly comprised of sand stone with subordinate shale, carbonaceous shale and coal seams. The sandstone was light gray varying from fine to gritty with kaolinised feldspar as the cementing

material. The formations were weathered. The burnt outcrop of sandstone could be observed in south central and south-eastern part of the block. This surface burning has been attributed to the aerial oxidation.

3.1.4 Coal Seams: There are four coal seams in the formation, namely, '0' Seam, Seam-I, Local seam and Seam-III. As per the geological report, '0' Seam is split into three sections, namely top middle and bottom section. Top and middle section of '0' Seam was unworkable due to their low thicknesses, whereas bottom section was worked extensively and was exhausted. 'Local seam was developed and extraction was continuing. Seam-I and Seam-III were also developed and being extracted. Local seam was dipping at 1 in 30 towards S 30° W, Seam-I at 1 in 26 towards S 32° W and Seam-III at 1 in 45 towards S 53°15' E.

3.1.5 Depth of cover above the topmost seam of the mine that is '0' seam, was varying from 0 to 160 m. The strike of the coal bearing formation was NW-SE and it dipped southerly by 1° to 2°.

3.1.6 Quality of Coal: Seam-wise coal analysis report is as follows:

Seam	Basis: As received / air dried at 6% Relative Humidity				
	Moisture (%)	Ash (%)	Volatile Matter (%)	Fixed Carbon (%)	Useful Heat Value (kcal/kg)
'0' seam	7.30	21.50	26.44	44.76	4925
Seam-I	7.20-9.18	11.1-14.20	28.18-33.20	46.80-50.55	5899-6140
Seam-III	8.90-9.20	8.91-12.70	30.74-33.40	47.36-48.79	5878-6442

3.1.7 The crossing and ignition point temperatures of all the three seams were stated to be 140°C and 155°C respectively. However, Seam-III, being long

flame coal, contained high volatile matter and exhibited low crossing point temperature which was indicative of higher susceptibility to spontaneous heating. Incubation period of Seam-III was expected to be six months.

3.2 Mine Boundary: Entire surface area spread over in about 2.11 sq km (211.54 Hectare) within the mine boundary of Anjan Hill mine fell under forest land with no habitation. Forest land covering an area of 0.54 Hectare at two places (0.42 Hectare and 0.12 Hectare) has been acquired for providing entry to the mine as well as constructing surface infrastructure.

3.2.1 Anjan Hill Mine shared a common mine boundary with Bartunga Hill Mine. Eight number of water dams constructed in Seam-III workings separated Anjan Hill Mine from Bartunga Hill Mine.

3.2.2 Approach to the surface area above the mine was difficult due to hilly topography.

3.3 Access: Two level entries, known as Adit-A & Adit-B, had been driven through Seam-I for development and extraction of the seams and an air shaft was sunk up to Seam-I for establishing the ventilation. Two drifts, driven from Seam-I to '0' Seam passing through the Local Seam were used for coal extraction and ventilation. Three more Drifts namely, AB, CD, and EF were also driven from Seam-I to Seam-III for establishing ventilation and extraction of Seam-III.

3.4 Mine Workings: Anjan Hill mine was producing about 300 tonnes of coal from Local seam, 120 tonnes from Seam-I and about 800-900 tonnes from Seam-III prior to the accident. Average daily employment in the mine was

500 in the underground and 40 on the surface. Manpower on roll was 864 for underground and 55 for surface. Mine was being worked in three eight hourly shifts, where first shift commenced from 7 am. Workmen, supervisors and officials rotated in shifts in reverse order on weekly cycle. Some workmen, supervisors and officials required for development, commissioning, maintenance, support services etc followed General shift commencing from 9 am.

- 3.4.1 '0' seam being the topmost was 2.09 to 5.33 m thick. It was completely exploited and kept sealed off since last six years.
- 3.4.2 Local seam lying about 13 m below '0' seam was fully developed by board and pillar method. Five panels, namely L1 to L5, were already extracted. Permission under Regulation 100(1) of Coal Mines Regulations (CMR), 1957 was granted for extraction of pillars in panels L6 & L7 by caving method using Side Discharge Loaders (SDL) vide DGMS letter No. BSP /010674/ Reg. 100(1) / III/ 161/ 08 / 648 dated 13.2.2009. Local seam is nearly exhausted.
- 3.4.3 Seam-I lying at about 55-65 m below Local Seam was also fully developed by board and pillar method. Depillaring in first panel was started in December 2005. Three panels namely 54 LA, 54 LB & 14 were depillared and sealed off. Presently panel 10R was being depillared with caving method using SDLs and permission under Regulation 100(1) of CMR, 1957 was granted vide DGMS letter no. BSP/ 010674/ Reg. 100(1)/ III/ 145/ 08/ 1377 dated 12.3.2009.

3.4.4 Seam-III lying about 29 m below Seam-I was about 7-9 m thick. Major portion of this seam was developed along the floor to an average height of 3 m. However, two panels namely, D-1 & E-1, on the North-West side of the workings were developed in such a manner that its top section up to a height of 3 m was worked initially and subsequently, the bottom section was developed contiguously leaving parting 3 m to 4 m between the sections. Permission to work in that system was granted vide DGMS letter No. 3349 dated 21.7.2006 and No. 449 dated 01.02.2007, respectively.

3.5 Prevalent System of Extraction in Seam-III: Full thickness of Seam-III was now being extracted during final extraction by a method known by Blasting Gallery (BG) method with caving. Sequence of operation and salient features of BG method have been dealt with at a later stage of this report.

3.5.1 Panel A1 in Seam-III was sealed off after extraction of coal using BG method. Permission under Regulation 100A of CMR, 1957 was granted for extraction of coal in panel A1 by BG method on trial basis vide DGMS letter No. BSP/ 010674/ Reg. 100A/ III/ 10/ 08/ 4220 dated 17.12.08. Extraction in Panel A2 started after sealing off Panel A1 on 15th January 2010. Permission under Regulation 100A of CMR, 1957 was granted for extraction of coal in Panel A2 vide DGMS letter no. BSP/ 010674/ Reg. 100A/ III/ 10/ 08/ 4724 dated 27.11.2009. Panel A2 was under extraction prior to the accident. Three Load Haul Dump (LHD) machines, three Jumbo drill machines and chain conveyors were under operation in this panel.

3.6 Old Workings:

- 3.6.1 All the four workable seams in Anjan Hill mine was extensively developed in bord (gallery) and pillar method since last many years. These old and disused workings were not kept sectionalised by constructing isolation stopping and the whole area was exposed to main return of the seam. Extraction of pillars in the developed seams commenced much later.
- 3.6.2 '0' Seam was exhausted and kept sealed off from 01.01.2005. Extraction of coal from the Local seam was on the verge of completion. Seam-I was being depillared by caving deploying SDLs (Side Discharge Loaders) and chain conveyors/belt conveyors. Three panels in the seam has already been extracted and kept sealed off whereas fourth panel was under extraction.
- 3.6.3 Seam-III was developed through Bartunga Hill Mine and development was not done in panel system of mining. Working area of Seam-III was divided into two parts by constructing a set of water dams. Workings of Seam-III on the north side of water dam were owned by Anjan Hill Mine and workings on the south side of the water dam were owned by Bartunga Hill Mine.
- 3.6.4 Mine Management had proposed to sectionalise the north side old and disused workings of Seam-III in a phased manner. In total, 70 numbers of isolation stoppings were required to be constructed in five phases to isolate the area completely.
- 3.7 Ventilation System: Anjan Hill mine was ventilated by a Main Mechanical Ventilator of 10,000 m³/minute capacity installed on the surface at the top of Air Shaft. A standby fan of 2000 m³/min capacity was also installed in parallel to the main mechanical ventilator. Adit-A and Adit-B served as main

intake airways and the air shaft served as main return for all the seams. Main mechanical ventilator operated at water gauge of 80 mm and with an efficiency of about 69% thus exhausting about 6900 m³ of air every minute. On an average, about 6600 m³/min of air entered the mine and ventilated all the seams. The gap between intake and return air quantity indicated entry of air (leakage) in to mine workings through surface cracks. The standby fan operated as and when required at water gauge of 20 mm. Distribution of air among all the seams was affected through ventilation devices such as ventilation doors, stopping etc.

3.7.1 Main mechanical ventilator installed at Anjan Hill mine had the capacity of ventilating the mine workings adequately but effective ventilation till the remotest corner also depended on how efficiently the flow of air was coursed and how effectively the intake and return airways were segregated by means of ventilation devices.

3.8 Rescue System:

3.8.1 Mines Rescue Rules 1985 (referred later in the report) requires the owner of an underground mine or a group of underground mines to establish and maintain rescue station. Such rescue station was required to impart initial training in rescue & recovery work, impart refresher training to rescue trained persons, provide support by its own rescue teams and equipment in case of major accidents or long-lasting rescue & recovery operations. Rescue operations in the mines are carried out in adherence to the provisions of the

Mines Rescue Rule, 1985. Duties of Manager etc are also provide in these rules for conducting rescue work in the mine.

3.8.2 In accordance with the Mines Rescue Rules, 1985, as referred to earlier, a rescue station was provided and maintained at Manendragarh. In addition, a rescue room provided at the mine site. Rescue Superintendent Shri P. K. Mitra was made in-charge of the rescue station and an attendant Shri S. S. Dhangar who is in the cadre of an officer looked after the rescue room.

3.8.3 The term 'Self Contained Self Rescuers' or SCSR used in this report describes an apparatus which is basically a self rescuer. SCSRs differ from Self Contained Breathing Apparatus. They are meant to be used under different circumstances and they do not substitute each other. Effectively, a self contained breathing apparatus allowed the wearer to breathe oxygen through a closed circuit oxygen supply line. Oxygen cylinder attached with the apparatus normally lasted for more than two hours. Therefore, this apparatus is used in an environment known or expected to contain noxious gases beyond a threshold level but the wearer must withdraw from the hostile environment within two hours. Contrary to this, SCSRs is escape devices capable of absorbing noxious gases while the wearer breaths oxygen available in the hostile environment. SCSRs become ineffective after being used for more than 45 minutes. For a better understanding of SCCR and self contained breathing apparatus (SCBA), the Court of Inquiry inspected them and had an insight regarding the functioning of these equipments during course of inquiry.

3.8.4 While self contained breathing apparatus was used by rescue trained persons during rescue & recovery operation in the underground mine, statutory provision required every person to carry a self rescuer before entering an underground mine. In the instant case the material on record shows that two rescue teams each with six rescue trained persons had entered the underground mine with SCSRs on the morning of 6th May 2010.

4.1 As observed earlier, statutorily, owner, agent, deemed agent, manager and other officials are required to take necessary precautions for safety, health and welfare of workers who work in mines. Violation of the provisions of the Act, Regulations & Rules made thereunder is punishable. It is relevant to point out that the 1952 Act came to be passed in substitution of 1923 Act wherein (1952 Act) Indian parliament provided for sufficient protection regarding safety health & welfare of workmen working in the mines. The various provisions of the Act and Rules & Regulations framed thereunder provide for qualification of various officials and require the mine operator to employ competent persons in the mines and provides for obligations for constitution of committees to take care of health & safety of workmen and working hours, leave with wages and penalties for the contraventions of the Act by the officials while discharging their duties.

4.2 Therefore, from the reading of various provisions of the Act, it needs to be pointed out that any deficiency, slackness either deliberately or inadvertently in complying with the provisions of the Act would result in serious breach of obligations and responsibilities cast on each of the officials and consequently

they are made liable for punishment. Further, any slackness and negligence on the part of persons in-charge of mines and on account of that any death taking place or any one suffering from bodily injury would also make the company (owner) liable for damages to the persons who suffer on account of any untoward incident taking place in a mine, in addition to criminal liability. Therefore, the Indian Parliament has provided for elaborate provisions in the Act casting several obligations both on the mining companies and on DGMS to take necessary precautionary measures to protect the interest of workers who work in the mines. Every official of the mining company has an obligation and duty to understand the object and spirit of the legislation and discharge his duties with serious commitment taking all the precautions that were required of them while discharging their duties. While the company, whether private or government, would generally be anxious for more production, they should not forget the obligations cast on the officers, who are working on the field or mines and they should not ignore, even remotely, the safety and interest of workers who work in the mines and who contribute for giving production to the mining company. If there is any conflict between the anxiety for production and safety of workers at a given point of time, it is needless to point out that it is not only the statutory obligation of persons in-charge of mining operations to take all precautions and steps to protect the interest and safety of workers but also it is their moral obligation. The authorities cannot view the slackness on the part of persons in management of mines either sympathetically or casually.

Further, while having broadly referred to the provisions of the Act and Regulations & Rules framed thereunder, the Court of Inquiry now proceeds to discuss the materials placed before it by the victims, relations of persons died in the accident, trade union leaders, representatives of officers association and the management.

4.3 The Court of Inquiry, after evolving its own procedure to conduct the inquiry in to the accident in question, felt it was necessary to inspect the area and vicinity of Anjan Hill Mine, though it was sealed off from surface. It was also felt necessary to speak to victims, relatives of those killed in the incident, union leaders and members of the public in an informal manner before the actual inquiry commenced and take their views into consideration. Therefore, the Chairman of the Court of Inquiry, both the assessors and Secretary of the Court of Inquiry visited Anjan Hill Mine on 2nd April 2011 in the presence of Shri R. B. Chakraborty, Deputy Director General of Mines Safety, Western Zone, Nagpur, Shri P. K. Roychoudhary, Director (Technical) (Operation), Shri S. S. Malhi, Chief General Manager, Shri Keshaw Chandra Paul, sub-Area Manager and others. Members of the print media and others were also present.

4.3.1 Entries to the mine, namely 'Adit-A' and 'Adit-B', were found sealed off at the mine mouth during the visit of the Court of Inquiry. Fan drift had also been sealed off from surface. Air samples from the mine were drawn through sampling pipes provided on the isolation stoppings at both the Adits and Fan-drift in the presence of the Chairman of the Court of Inquiry.

Samples were analysed for presence of Methane (CH₄), Carbon di-oxide (CO₂), Carbon mono-oxide (CO) and Oxygen (O₂) using hand held equipment. Temperatures behind the isolation stoppings were also recorded. Analysis of data indicated that the environment of the mine behind isolation stoppings was cooling down. Scientists from Central Institute of Mining and Fuel Research (CIMFR) who were present at the site informed that the environment of the sealed-off mine was being monitored with a view to ascertain time of reopening of the mine. It was reported that the decision to reopen the mine can only be taken after host of stabilisation parameters remained unaltered for considerable period of time and until temperature behind stoppings remained at the present level continuously for 120 days. Observations made during visit of the mine on 2nd April 2011 are set out hereinunder:

Position	% of Gases in air samples drawn				Temperature in ° Celsius
	CH ₄	CO ₂	CO	O ₂	
Adit- A	Nil	3.3	Nil	4.0	24
Adit- B	Nil	4.7	Nil	3.8	24
Air Shaft	Nil	0.01	Nil	20.6	28

4.3.2 The Chairman and the assessors had informal discussion with victims and relatives of those killed in the accident, representatives of different trade unions and members of the public in the Conference room of the office of the General Manager of Chirimiri Area at Chirimiri. More than sixty people including representatives from various trade unions, social activists and relatives of the accident victims participated in the discussion. The Chairman

of the Court of Inquiry sought cooperation from everyone to complete the task assigned to the Court of Inquiry by the Government of India within the prescribed time frame. Representatives of all the trade unions were requested that they should decide on number of persons for filing affidavits and try to avoid unnecessary duplication of contents for saving the time of the Court in conducting the inquiry. The discussion was cordial and fruitful. It gave insight to the Chairman and assessors of the Court of Inquiry on the further steps to be taken for conducting the inquiry.

4.4 By means of paper publication in local newspapers, namely Dainik Bhaskar published from Raipur/Bilaspur, Hari Bhumi published from Bilaspur, Deshbandhu published from Bilaspur/Raipur & Nav Bharat published from Bilaspur in Hindi, and The Times of India published from Bilaspur in English on 26th / 27th March 2011, the Court of Inquiry called for representations by means of affidavits from employees, staff, management or other persons who are directly or indirectly interested or have knowledge with regard to the cause and circumstances attending the accident. Such representation or affidavits were required to be filed on or before 5 PM on 15th April 2011.

4.4.1 The copy of such one paper publication is reproduced below:

Public Notice

In exercise of the powers conferred by sub-section (1) of Section 24 of The Mines Act, 1952 (35 of 1952), the Central Government, vide Gazette Notification No. S.O. 456(E) dated 1st March 2011, has appointed Justice P. Vishwanatha Shetty (Former High Court Judge) to hold formal inquiry into

causes and circumstances attending the accident causing loss of lives that occurred on 6th May 2010 at Anjan Hill Mine of M/s South Eastern Coalfields Limited in Korea district of Chhattisgarh State. The Central Government has also appointed Shri Shiv Kumar Dubey, General Secretary, Bhartiya Koyala Khadan Mazdoor Sangh and Shri Satinder Kumar, Former Chief Inspector of Mines as assessors in holding of the inquiry.

The Court of Inquiry calls for representation by means of affidavits from employees, staff, management or other persons who are directly or indirectly interested or have knowledge with regard to the cause and circumstances attending the accident. Such representation or affidavits are required to be filed on or before 5 PM on 15th April 2011 before the Secretary to the Court in the Regional Office the Directorate General of Mines Safety, Ghaziabad at Room No. 101-102, C.G.O. Complex-II, Block-B (First Floor), Hapur Road, Ghaziabad-201002. No further time shall be given to file affidavit beyond date notified above.

Affidavits filed will be treated as chief examination for the purpose of evidence and persons affected / interested will be permitted for cross examination. Examination of witnesses will be held generally at Delhi in the office of the Court of Inquiry or any other place Court may notify except those witnesses who express their disability to go over to Delhi in writing while filing affidavit. Such witnesses will be examined at Bilaspur at a place to be notified at a later date.

All interested persons including those who filed affidavit will be permitted to inspect and also to obtain copies of affidavits on request and on a payment of Rs 2/-per page.

First meeting of the Court of Inquiry shall be held in the Conference Hall of the office of the General Manager, Chirimiri Area, Chirimiri at 3 PM on 2nd April 2011 where the Court shall formally hear representations from all the registered trade unions, associations, M/s South Eastern Coalfields Limited, Directorate General of Mines Safety and people's representative, if any.

By order of the Commission

New Delhi

(M. Satyamurty)

Dated 24th March 2011

Secretary to the Court of Inquiry

4.4.2 As it could be seen from the notification, 21 days time was granted to submit the representations by means of affidavits. The Court of Inquiry initially received representations / affidavits from twenty nine people / organizations till the closing date. However, in view of the requests made by people in the public hearing for extending the last date for filing affidavits and since only few affidavits were received before the last date for filing affidavits, time fixed for filing representations was extended by ten days i.e. up to 25th April 2011 through publication in the same newspapers stated above. In addition to news paper publication, wide publicity was also given among workers by putting up the notices on all the notice boards of different collieries in Chirimiri area and also on the notice boards of the office of the General Manager. Office of the Director Mines Safety, Bilaspur

was also requested to publicise the matter in both the occasions through their officials and through officials of Internal Safety Organization of SECL.

4.5 Subsequently, the inquiry was fixed for the purpose of recording evidence and cross examination of witnesses at Bilaspur from 20th May to 23rd May 2011 in the Conference hall of the Management Training Institute of SECL at Indira Nagar, Bilaspur. In addition to sending individual notices to all the persons who filed affidavits, wide publicity was given through the corporate office of SECL at Bilaspur and office of the Director Mines Safety, Bilaspur. After the closing date, memorialists were requested to file their objections or rejoinders to affidavits already filed if statements made in affidavits affected their interest within three weeks i.e. is up to 15th May 2011. The affidavits and documents received by the Court of Inquiry were permitted to be inspected for the purpose of examination by interested parties and their copies were made available to all memorialists on demand. Copy of the notice for participation in inquiry was put up for information at prominent places in Chirimiri Area and at the offices of all the five recognized trade unions. Copy of such notice is reproduced herein below:

Notice

So far the Court of Inquiry has received sixty-one representations by means of affidavits. You are entitled to collect copies of the same from the Member Secretary to the Court. You can file your objections or rejoinders to affidavits already filed if statements made therein affect your interest. Objections / rejoinders, if any, may be filed before Secretary to the Court of

Inquiry in the office of Director Mines Safety, Bilaspur Region, Bilaspur on or before 15.5.2011.

It has been tentatively decided to hold inquiry and begin examination of witnesses / persons who have given affidavits or representations at Bilaspur with effect from 20th May 2011 to 23rd May 2011 from 9:30 AM to 6 PM with an interval of two hours between 1 PM and 3 PM. However separate notices will be issued to each of the witnesses / memorialists or persons who have given affidavits or representations specifying time and date of his / her appearance before the Court of Inquiry to give evidence. The memorialists are entitled to take the help of legal practitioner in the course of inquiry proceedings before the Court.

You may contact Secretary to the Court at his mobile # 09891452528 for seeking any further clarification, if required.

By order of the Commission

New Delhi

(M. Satyamurty)

Dated 28th April 2011

Secretary to the Court of Inquiry"

- 4.6 With a view to enable all the memorialists, majority of them being either victims or relatives of victims, to participate in proceedings, the Court of Inquiry also organized for transport from Chirimiri to Bilaspur and back for such persons who were to come to Bilaspur for the purpose of inquiry on all the four days. The Court of Inquiry ensured that persons who participated in proceedings were provided breakfast, lunch and tea on all the dates of sitting.

- 4.7 The Court of Inquiry proceeded to examine victims, their relatives, representatives of trade unions and others who had filed affidavits and gave opportunity to the representative of the management to cross examine the said persons. The victims and their representatives, leaders of trade unions were also given opportunities to cross examine such of those persons who had filed their affidavits on behalf of the management; DGMS and officers association.
- 4.7.1 The proceedings of the Court of Inquiry commenced at 10:30 am on 20th May, 2011. On behalf of Workmen/Victims and their relatives and trade unions, 15 witnesses were examined as WW-1 to WW-15. Affidavits filed and other documents submitted by them were marked as Exhibit W-1 to W-17. Three persons who had filed affidavits and scheduled to be examined on 20th May 2011 did not turn up in-spite of notices having been served on them. Shri U. W. Datey appearing on behalf of the management cross examined the witnesses.
- 4.7.2 Two of the management witnesses, Shri S. S. Dhangar & Shri S. V. P. Singh, who were notified to be examined on 23rd may 2011 made a written request for examination on 20th May itself on account of their inability to participate in inquiry at a later stage of the proceedings on account of certain personal difficulties. The representatives of victims and trade unions had no objection to examine the said management witnesses at the beginning of the inquiry. Accordingly, Shri S. S. Dhangar was examined as MW-1 and Shri S. V. P. Singh was examined as MW-2. Affidavits filed by MW-1 and MW-2 were

respectively marked as Exhibit M-1 and Exhibit M-2. MW-1 and MW-2 were cross examined by Shri Akhtar Javed Usmani, Deputy General Secretary(C), Koyla Mazdoor Sabha (HMS) appearing on behalf of workmen.

4.7.3 The proceedings of the Court of Inquiry commenced at 10:30 am on 21st May 2011. On behalf of workers / victims and their relatives / trade union, 14 witnesses were examined as WW-16 to WW-29. The wife of one of the injured person, who was to be examined on 20th May 2011 but failed to attend the court as he was hospitalised, was allowed to be examined on behalf of her husband. One of the representatives of trade union appearing on behalf of workmen expressed his desire to cross examine other witnesses. He offered himself for cross-examination on the same day so that he could remain present in the court at the later stage of proceedings. His request was allowed. The affidavits of witnesses and other documents produced in the court by witnesses were marked as Exhibit W-21 to W-36. Six persons who had given affidavits did not turn up, in spite of notices having been served on them for appearing before the Court of Inquiry to give evidence. Shri U. W. Datey appearing on behalf of the management cross examined some of the witnesses. However, in respect of few witnesses he stated that he did not want to cross-examine.

4.7.4 The Court of Inquiry commenced its proceedings at 10:00 am on 22nd May 2011. On behalf of workmen 4 witnesses were examined as WW-30 to WW-33. The documents including affidavits submitted by them were marked as Exhibit W-37 to W-40. On behalf of Officers Association, three witnesses

were examined as OAW-1 to OAW-3. The documents including their affidavit were marked as Exhibit OA-1 to OA-3. On behalf of the journalist / Activist three witnesses were examined as JW-1 to JW-3 and their affidavits were marked as Exhibit J-1 to J-3. Shri U. W. Datey appearing on behalf of the management cross examined the witnesses.

4.7.5 On the request made by the management's representative, Shri P.K. Mitra, who was not keeping good health and who had not filed affidavit before the Court of Inquiry was permitted to be examined as witness in the course of inquiry as the Court of Inquiry was of the view that his evidence is of considerable importance and use for the Court of Inquiry as he was one of the victims of the accident as he had accompanied one of the rescue teams to the underground mine at about 6 am on 6th may 2010. The representatives of the workmen had no objection for examining Shri P. K. Mitra. Shri Bajrangi Shahi, General Secretary of Chirimiri Area Koyla Mazdoor Sabha (HMS) and Shri Akhtar Javed Usmani, Deputy General Secretary(C), Koyla Mazdoor Sabha (HMS) appearing on behalf of workmen cross examined MW-4. In addition to MW-4, two other persons representing the management were examined as MW-5 and MW-6. Their affidavits were marked as Exhibit M-3 and M-4. Two persons representing workmen, who had filed affidavits and were notified to be examined on 22nd May 2011, did not make themselves available for examination in-spite of notices having been served on them for their appearance before the Court of Inquiry.

- 4.7.6 The Court of Inquiry commenced its proceedings at 9:00 am on 23rd May 2011. On behalf of the workmen, Shri Amin Khan was examined as WW-34. His affidavit was marked as Exhibit W-41.
- 4.7.7 Shri Bajrangi Shahi and Shri Akhtar Javed Usmani had made oral request for examination of one of the two surviving members of the rescue Team-B, who was sent underground on 6th May 2010 as they would be in a position to accurately place before the Court of Inquiry as to under what circumstances they were sent as member of rescue team-B and what was the cause of accident in which four other members of their rescue team died. Shri U. W. Datey, who is representing management offered to examine Shri Nadim Baux although he had not filed affidavit earlier. He was examined as WW-35. Shri Bajrangi Shahi appearing on behalf of workmen cross examined him. Shri Lal Babu, who had filed affidavit, but could not appear on the notified date, was permitted to be examined as WW-36. His affidavit was marked as Exhibit W-42. Six persons representing management were examined as MW-6 to MW-11. Documents produced by them including affidavits were marked as Exhibit M-5 to M-14. One person representing management, who had filed affidavit, did not turn up before the Court of Inquiry in-spite of notice having been served on him for appearing before the Court of Inquiry. Further, three persons representing workmen, who had filed affidavits and were notified to be examined on previous dates, had jointly made a request for examination on 23rd May 2011. Their request was accepted but they did not reach the court till 11:30 am. By that time,

examination of management witnesses had already commenced. Only one of them namely Shri Ramanuj Agrawal came to the court after 11:30 am. He was neither an employee in any coal mine nor represented any trade union. He was also not a resident of the locality near Anjan Hill mine. In view of the fact that evidence of management witnesses had already commenced before he reached the Court of Inquiry and the Court of Inquiry felt that his examination was not necessary, his request for examination was not accepted. Though Shri D. K. Mallick representing Directorate General of Mines Safety was ready for cross examination, however, in the light of request made by Shri Akhtar Javed Usmani, Shri Bajrangi Shahi, Shri Lakshman Chandra, Shri N. L. Pandey and Shri S. K. Pandey, all appearing on behalf of workmen representing different trade unions, that they require some time to go through the lengthy affidavit filed by Shri Mallick with large number of annexure, the Court of Inquiry adjourned the proceedings for further examination of witnesses. All the parties submitted that examination of remaining witnesses may be held either at Bangalore or Delhi. Further, a request was made in writing by Shri Akhtar Javed Usmani praying that Deputy Director in the office of the Director Mines Safety, Bilaspur may be directed to be examined in the course of inquiry. The Court of Inquiry made an order observing that it is desirable either for the Deputy Director or some other responsible officer from Directorate General of Mines Safety to offer himself for examination though no affidavit was filed on their behalf before the Court of Inquiry.

- 4.8 Though further inquiry was fixed to be held on 6th July 2011, the Chairman of the Court of Inquiry felt that the inquiry has to be completed early and therefore, after informally consulting all the parties interested, the date of inquiry was advanced from 6th July to 17th June to be held at Raipur at 9 am.
- 4.8.1 The proceedings of the Court of Inquiry commenced at 9:00 am on 17th June 2011. Shri D. K. Mallick, Director of Mines Safety, DGMS (Hqrs), Dhanbad was examined as DGMS W-1. His affidavit was marked as Exhibit DGMS-1. He was cross-examined by S/Shri Akhtar Javed and Lakshman Chandra on behalf of workmen, Shri R. S. Gupta on behalf of Officers Association and Shri U. W. Datey on behalf of management. A statutory report in respect of inspection of old workings given by Late A. M. Paul, Sr. Overman was shown to Shri D. K. Mallick (DGMSW-1) and same was marked as Exhibit DGMS-2.
- 4.8.2 Shri Rahul Guha, Dy Director General of Mines Safety, North Western Zone, Udaipur, who had not filed any affidavit, was examined in chief as DGMSW-2. Shri Akhtar Javed Usmani on behalf of workmen and Shri R. S. Gupta on behalf of Officers Association cross-examined him. Dr Jayant Kumar was examined as witness of the Court of Inquiry (CW-1). Post mortem reports given by him were marked as Exhibit C-1 to C-10. He was cross-examined by Shri Javed Akhtar Usmani & Shri Lakshman Chandra on behalf of workmen.
- 4.8.3 After completion of inquiry with consent of the parties who participated the proceedings the date for argument was fixed on 4th July 2011 and if

necessary to continue on 5th July 2011 at New Delhi. Parties and their representatives were given time till 22nd July 2011 to file their written submission.

4.8.4 Fresh notices were issued to the management & its representative, union leaders and all those persons who had filed affidavit and gave evidence before the Commission notifying 4th and 5th July as date fixed to hear argument as stated above.

4.9 The proceedings of the commission commenced on 4th July 2011 for hearing arguments of the parties and their representatives. The Court of Inquiry heard the arguments of the Shri Akhtar Javed Usmani, appearing on behalf of Hind Mazdoor Sabha and Shri Lakshman Chandra, appearing on behalf of Bhartiya Mazdoor Sangh. However, since the argument of Shri N. L. Pandey, appearing on behalf of Bhartiya Mazdoor Sangh could not be completed in full on 4th July 2011, the proceeding was adjourned to 5th July 2011. Shri N. L. Pandey was further heard and he completed his argument. Shri R B Chakraborty appearing on behalf of DGMS and Shri U. W. Datey appearing on behalf of the SECL management were also heard in full and parties were given time to file written submissions till 22nd July 2011.

4.9.1 Shri Akhtar Javed Usmani, Shri N. L. Pandey, Shri S. K. Pandey and Shri Lakshman Chandra all representing the workmen broadly made following submissions:

- i. It is their submission that the accident in question has taken place only on account of total negligence and callousness on the part of the

management of SECL in carrying on mining operations at Anjan Hill Mine. It is their submission that provisions of the Act, Regulations & Rules framed and Orders made thereunder were flouted by the management and failure to comply with provisions of Act, Regulations & Rules framed and Orders made thereunder was the root cause for the accident in question. Elaborating their submissions they pointed out the deficiencies mentioned herein on the part of the management.

- a. The management had obtained the permissions dated 17/12/2008 and 27/12/2008 from DGMS for depillaring operation by misrepresenting the facts with regard to depth of cover and also carrying out mining operations without obtaining clearance from forest department.
- b. The adoption of BG method of mining as against conventional Bord & Pillar method was the cause of accident.
- c. The management has failed to comply with conditions imposed by DGMS by means of orders dated 17/12/2008 and 27/12/2008 where it was specifically pointed out that management was required to sectionalise the workings before start of depillaring operation, panel was required to be sealed off within incubation period for preventing spontaneous heating of left out coal and make suitable arrangement for flushing the goaf with Nitrogen (N₂) / Carbon dioxide (CO₂) in order to reduce the possibility of spontaneous

heating in the panel. Nitrogen gas was also not being flushed regularly.

- d. The management has also failed to remove coal dust from mine workings, failed to spray water at regular intervals and treat with incombustible dust in requisite quantities.
- ii. It is their further submission that while the management of SECL ignored pre-conditions of the permission orders dated 17/12/2008 and 27/12/2008, the inspection report dated 07/02/2009 and 09/08/2010 by Deputy Director of Mines Safety did not point out contraventions and mine management was allowed to work without fulfilling the pre-condition of both permission letters.
- iii. The project report of Anjan Hill Mine was prepared by the CGM Chirimiri Area and Executive Director (Safety), CIL without considering the issues like constructing stopping, seam being thick & fiery, scarcity of water in Chirimiri Area, removal of fallen accumulated coal in old galleries, possibility of generation of huge amount of fine coal dust & its treatment and old history of developing the mines in honey comb fashion.
- iv. Application for permission was sent to DGMS with inaccurate plan data about surface cover and about forest land above the panel and DGMS granted permission without satisfying themselves about sectionalisation and thickness of cover above the panels for which permission was sought.

- v. It was pointed out that SECL (Owner) failed to provide funds for arranging safety appliances in time despite repeated requests from the Chirimiri Area and also failed to direct local management to comply with terms of the permission order and purchase Self Rescuers which was a statutory requirement.
- vi. Large quantities of explosive were being stored in underground mine.
- vii. While working old BG Panel A1, blasting in the roof created a pot hole. The then management was persuaded by trade union leaders to get the pothole filled as otherwise there would be possibility of spontaneous heating.
- viii. Quality of construction of isolation stoppings in Panel A1 was poor which resulted in leakage of Carbon mono oxide through them.
- ix. It was emphasized that when the normal operation in the mine was suspended on 5th may 2010 itself, there was absolutely no justification to send two rescue teams to underground mine and two non-rescue trained workmen to collect air samples from underground mine when there was sufficient indication for the management to visualise that it was totally unsafe for sending any person and permit the workers stand on the mine mouth on the morning of 6th May 2010. According to them it is on account of anxiety of management to go on with the production without due care and caution for health, safety and welfare of workmen, the accident in question has taken place and therefore a

recommendation should be made for stern action against persons who are responsible for the accident in question.

- x. It is also their submission that Shri D. K. Mallick, Director Mines Safety, has in his report clearly indicted the management for the accident in question. Further, one Shri Ramanuj Agrawal has sent written submission stating that the inquiry report submitted by DGMS was sufficient to mark the culprits responsible for the disaster.
- xi. The award of compensation as provided under Workmen Compensation Act was totally inadequate and having regard to hazardous conditions in which workmen work in the mines, at least a sum of Rs 15 lakhs is required to be paid as compensation to the legal heirs of the victims who died in the accident and such of those workmen who survived in the accident should not be insisted upon to go underground.
- xii. It was also pointed out that while providing compassionate employment to the dependent of victims, their qualification and eligibility should also be considered. It would be highly un-reasonable to appoint the dependent of the victim who died in an accident in mines at the lowest cadre of category-I mazdoor when such dependent is highly qualified to hold higher position. Since there are vacancies in SECL at higher management levels and also in other subsidiaries of CIL, it will be just and reasonable to offer appointment to such persons having regard to the suitability of post and qualification. The relatives

of accident victims should be treated differently from others while giving appointment on compassionate grounds.

- xiii. Payment of pension to the dependent of victim's family should not be a bar for granting medical facility to the dependents of victim's family.

4.9.2 Shri R. S. Gupta appearing on behalf of officers association has made the submissions as set out herein below:

- i. Provisions of law do not define the composition of mine air at which entry in the underground mine by persons including rescue teams needs to be prohibited. There is need for defining such composition to guide mine managers or principle official in taking decisions in emergencies.
- ii. Sometimes taking certain calculated risk become inevitable during a crisis. Sending non-rescue trained person for collecting air samples on the morning of 6th May was no doubt risky, but the crisis left no option for decision makers in the larger interest of the mine and the need of the hour. Late Dal Bahadur was regularly collecting air Samples. Provisions of regulation 119 of Coal Mines Regulations, 1957 empowered the manager to allow entry of persons for dealing with or sealing of the fire.
- iii. Danger from gasses in degree-I gassy mine is the least. Even the inspection of old and unused work in degree-I gassy mine is not essential as per law. No test has been specified by the law to detect

spontaneous heating or fire in old and unused development working in degree-I gassy mine.

- iv. It was practicable to remove the coal from old and disused working that is why the fallen coal was removed. Hence it was not required to be sealed off as per law. The provisions of regulation 118 A (1)(b) and 118 (4) of Coal Mines Regulations, 1957 were under reasonable compliance.
- v. It is a matter of record that the areas required to be treated by incombustible dust was adequately treated by incombustible dust. The conclusion drawn about its inadequacy was not substantiated by any statutory report or inspection report of DGMS officials.
- vi. As per control room register only those persons who were required under regulation were allowed inside the mine under the rescue cover. Rest of the persons was withdrawn as per Regulation 114(1).
- vii. Eruption of dust cloud with fire through the mine mouth was not apprehended in degree-I gassy mine. Had it been anticipated, no one would have endangered their lives by standing in front of mine mouth including Late S. K. Goswami, G.M. (Operation) who died; Shri S. S. Malhi, C.G.M., Shri K. C. Paul, sub-Area Manager, Shri J.N. Dash Colliery Manager & Shri S. K. Mitra, Rescue Superintendent who sustained injuries; and Shri S. V. P. Singh, Ventilation Officer & Shri Sailo, shift in-charge who had narrowly escaped in the accident. It was

a normal practice for persons standing in and around the mouth of the mine.

viii. Impact of coal dust explosion reaches every part of the mine. Body of one of the deceased was found in sitting posture. It could not have happened if the coal dust explosion reached at that location. Dust clouds seen on 5th May 2010 remained unexplained. Had the dust been raised by Methane explosion, coal dust explosion might have occurred on 5th May 2010 itself. This clearly indicates that gusts were not an outcome of explosion. Some more evidences are required to be collected and further investigation done to arrive at the conclusion about the cause of the accident.

4.9.3 Shri R. B. Chakraborty appeared on behalf of DGMS and strongly refuted the allegations of negligence on the part of DGMS. However, Shri D. K. Mallick, Director Mines Safety, in his written submission filed on behalf of DGMS, has broadly made the following submissions:

i. An inquiry into the causes and circumstances leading to the accident under Section 23(2) of The Mines Act, 1952 was conducted by him and an interim report submitted may be considered a part of his submissions. According to him Blasting Gallery method is an advancement of technology employing remote machines which eliminates exposure of more persons to risk while working in the underground mines and it also results into higher percentage

extraction than conventional depillaring taking care of long term conservation issues.

- ii. He further pointed out that more often than not, the role of the Directorate General of Mines Safety had not been looked into in the light of what has been mandated by the law. The Mines Act, 1952 has clearly cast the responsibility of implementing measures to ensure safety in mines with the mine operators (Section 18 of The Mines Act) and the operational capabilities and resources are only available with the mine operators and DGMS with its meager resources does sample checks as far as practicable and points out the measures to be taken for rectification of violations. He also pointed out that DGMS also work towards development of the statute and issue guidelines, recommendations, etc. to the industry.
- iii. It is also his submission that Bilaspur regional office of DGMS was manned by two officers (inspecting). An inspecting Officer is required to make 100 inspections of mines in a year which includes inspections in connection with complaint and accident inquiries, besides, the officers are required to act as examiners in statutory examinations, take part in safety promotional initiatives, meetings, lectures, etc. The officers are also required to attend various Courts in connection with prosecution cases which involve considerable travelling. In view of the huge work load, it is difficult for the officials of DGMS to take minute care of day to day affairs in a mine.

- iv. He also pointed out that
- a. the jurisdiction of Bilaspur region of DGMS spreads over 13 districts of Chhattisgarh State covering about 96,500 square km;
 - b. geographically the jurisdiction of the region extends about 700 km along North-South and 435 km along East-West;
 - c. there are 252 listed non-coal mines including 21 highly mechanised opencast mines with processing units and 36 coal mines which includes 29 underground coal mines;
 - d. the employment figures in coal mines stand at over 36,000;
 - e. nearest cluster of non-coal mines is at about 22 km from Bilaspur regional office and the farthest cluster lies at about 580 km, the nearest coal mines are at about 80 km and the farthest are at about 250 km.

4.9.4 Shri S. V. P. Singh, the then Ventilation Officer of the Anjan Hill Mine has stressed upon a point in his written submission that though he was the Ventilation Officer of the mine but he had not sent late Dal Bahadur and late Ravindra Shah to underground mine for collecting air samples in the morning of 6th May 2010. He also pointed out that he had discussed the report of gas chromatography which indicated presence of 5521 ppm (parts per million) of carbon mono oxide and other gases in the sample taken from main return airway with Shri Sudhir Kumar, the then Area Safety Officer at 7 pm on 5th May 2010 and Shri Sudhir Kumar contacted the person who had

prepared the said report over telephone and he was informed that another sample would be sent the next day after checking it properly.

- 4.9.5 Shri U. W. Datey appearing on behalf of management, strongly negated contentions made by representatives of workmen that the accident has taken place due to negligence on part of management and in an anxiety to produce coal to meet the ever increasing imposed targets by higher management and government. In the written submission filed, he has set out in detail the sequence of events and steps taken by the management to protect the interest of the workmen. He also pointed out that the evidence produced on behalf of workmen should be rejected as totally unbelievable and interested as everyone of them was too keen to have better service conditions for them including higher compensation to the family of the deceased and better treatment to the injured and unconditional medical facilities irrespective of pension members of the family of deceased were receiving. It is his further submission that the positive evidence produced by the management not only falsifies the parrot like statement of the witnesses examined on behalf of workmen but also clearly establishes that management has taken all precaution that was required to be taken as reasonable and prudent persons in the facts and circumstances of the case would take. He pointed out that the officers in-charge of mining operation had taken all the steps to strictly comply with provisions of the Act, Regulation & Rules framed and orders made thereunder. It is his submission since the inquiry being quasi-criminal in nature to fix up the liability on the

officers who were in-charge of the management, the evidence placed on record must be of such nature that it should consistently point out towards the guilt or negligence on the part of the concerned officers in-charge of mining operations at the relevant time. He also pointed that the fact that Shri P. K. Mitra, Rescue Superintendent who has huge experience in dealing with situations like the one that led to the accident in question and late Goswami, GM(O) who was also well experienced and rescue trained person were at the spot and Shri PK Mitra has sustained serious injuries and late Goswami had died, would clearly show that if there was any element of doubt in their mind that there is any chance of accident of the nature that has taken place, would take place, they would not have taken the risk alongwith others. The fact that Shri P. K. Mitra accompanied one of the rescue teams and late Goswami was standing along with others at the mine mouth would clearly show that they did not anticipate any risk element involved in sending rescue team to underground mine for the purpose of ascertaining the actual situation inside the mine. He also pointed out that report of the inquiry committee which consisted of experts appointed by Coal India Ltd has also opined that it is not possible to arrive at a definite conclusion with respect to the exact nature and causes and circumstances attending the accident till reopening of the mine and therefore, it will be highly unfair at this juncture for the Court of Inquiry to record the finding of negligence on any of the officers who has been in management of SECL. It is also his submission that there is no truth in the grievance made on behalf

of the workmen that conditions of permission granted to carry on mining operation at Anjan Hill Mine were not complied with and failure to make necessary arrangement for Nitrogen flushing was the cause for the accident in question. He submitted that though effective steps were not taken to provide arrangements for Nitrogen flushing on account of several difficulties, effective steps were taken for flushing of goaf with Carbon di-oxide. He also submitted that though the permission was not obtained from forest authorities for taking dozers or other vehicles through the forest to go over to the surface above the workings with a view to fill cracks and potholes effectively, steps were taken to send the people to fill up the cracks manually. He also pointed out that report given by Shri D. K. Mallick does not represent the true facts and it should not be given any weight as the some of the persons who had given statements before Shri Mallick have not supported their earlier statement in the course of proceedings before the Court of Inquiry and some of those who have given statements were not made available for cross-examination. Therefore, it was pointed out that the Court of Inquiry must examine the materials on record independently without referring to the report submitted by Shri Mallick. It is stated that the cause of accident could be on account of – (a) Methane gas explosion, (b) Coal dust explosion (c) Methane gas explosion triggering coal dust explosion (d) Air blast or (e) Any other reason such as bush fire in forest. In the written submission filed, at a greater detail it is pointed out that the

accident in question could not have taken place on account of any of the causes referred to above.

5.0 Evidences on record:

5.1 The evidence placed before us can be broadly divided in to five categories, namely, workmen witnesses, management witnesses, officers witness, DGMS witness and Court Witness. Evidences can be further sub divided as:

- (a) Evidence of relations of deceased,
- (b) Evidence of victims,
- (c) Evidence of workmen who were present at the time of incident,
- (d) Union representatives and activists,
- (e) Evidence of witnesses examined on behalf of management, Officers association, DGMS and witness summoned by the Court of Inquiry.

Evidence of witnesses referred to can also be further classified in to following categories:

- (i) Witness who speak about lack of care and precaution taken by the management. In other words those witnesses who attribute negligence on the part of the management. This again can be sub-divided in to non-compliance of the conditions of permission granted by DGMS by means of order dated 17.12.08 and 27.11.2000 to carry out operations at Anjan Hill Mine and lack of care and precautions taken by management to protect the interest of workmen from 3rd May 2010 onwards till the date of

accident though there was sufficient indication of risk involved in carrying out mining operation.

- (ii) Evidence of victims, relation of deceased and others regarding inadequate payment of compensation and non extension of medical facilities to the victims of accident and circumstances detailed therein.
- (iii) Evidence of management witnesses to show that the accident took place beyond the control of management in-spite of all precautions taken.

5.2 In the light of rival submissions made by the parties both orally and in writing and the evidence placed before us following questions emerge for our consideration:

- i. Whether the accident in question that occurred on 6th May 2010 at Anjan Hill Mine causing death of 14 persons, seriously injuring 5 and inflicting minor injuries to 26 persons was as a result of negligence of any officer / staff who were in the management of SECL on account of their failure to discharge their duties and obligations as provided under the Act, Regulations & rules framed and orders made thereunder as claimed by the workmen?
- ii. Whether the accident in question had taken place on account of circumstances beyond the control of any officer / staff who are in the management of SECL?

- iii. If the accident in question had taken place on account of negligence of any officer / staff, in that who is /are the persons in the management responsible for the same?
- iv. Whether there was any negligence on the part of DGMS in averting the accident and if so who was responsible?
- v. Whether sufficient and effective steps were taken by the management for rehabilitation of the injured persons who survived and next of the kin of persons who were killed in the accident?
- vi. Whether the management is justified in denying the medical facilities to the victims of the accident who are permanently disabled or who were treated unfit for work or heirs of the deceased when their dependent were given employment on the ground that pensionary benefits received by the family of deceased exceeds Rs 1500/- per month?
- vii. Whether any additional compensation is required to be paid to the legal heirs of those who died and those injured in the mining accidents and if so then at what rate?
- viii. In the light of conclusion to be arrived at, the nature of the recommendations to be made – (a) in the event of the Court of Inquiry finding that the accident had taken place on account of negligence on the part of management / DGMS; (b) for stopping recurrence of such incidents; and (c) by way of welfare measures to labour force?

6.0 Since issues referred at point (i), (ii) and (iii) above are interrelated, the Court of Inquiry finds it appropriate to deal with said questions together. The Court of Inquiry now proceeds to broadly refer to the evidences placed before the Court of Inquiry by relatives of victims, victims, representatives of various trade unions, officers, SECL management, DGMS and Court witnesses.

6.1 Shri Jagdish Prasad Mishra, the father of deceased SECL employee, one Shri Abhishek Mishra, was examined as WW-1. In his affidavit, marked as Exhibit W-1, he has submitted that his 30 year old son who died in mine accident was an inexperienced trainee in the mine. He was sent underground by the higher management making him captain of a team for repairing a stopping. The team under the leadership of his son was sent without Oxygen masks in an environment known to have poisonous gases. Shree Mishra has further said that Compensation amount paid by SECL is not in accordance with guidelines/regulations and therefore SECL should pay atleast Rs 15 lakhs as ex-gratia amount. In support of his claim he submitted extract of Government Rule which was marked as Exhibit W-2. He also produced photocopy of cheque dated 4th May, 2010 issued in favour of Smt. Kirti Mishra, his daughter-in-law for payment of Rs 10,29,971/- which was marked as Exhibit W-3. Management's representative did not cross examine WW-1.

6.2 Shrimati Reeta Das, the wife of late Ujjwal Das was examined as WW-2. In her affidavit marked as Exhibit W-4, she has submitted that her husband, a petty contractor with license limit as Rs 2 lakh, was undertaking small jobs in the mine. As per the practice, whenever contractor workers went for doing any job in the mine, their attendances were being marked in statutory register before start of the job. Management engaged late Nirmal Kumar, who used to work under the employment of her husband, on the day of accident without the knowledge of his employer and without marking his attendance in statutory register he was sent for work and unfortunately he was killed in the accident. SECL management paid Rs 5 lakh as compensation to the next of the kin of late Nirmal Kumar and asked her husband to deposit Rs 439000/- in lieu of compensation paid to late Nirmal Kumar. Payments of pending bills due to her husband were stopped. On account of this her husband could not bear the shock of financial hardship, suffered heart attack and died. She added that her late husband had deposited two and half to three lakhs rupees with the management of Anjan Hill Mine as earnest money. She pleaded that the earnest money and pending bills should be paid to her. Management's representative did not cross-examine her.

6.3 Shrimati Sushmita Sarkar, the wife of deceased SECL employee late Tapan Sarkar was examined as WW-3. In her affidavit marked as Exhibit W-5, she has submitted that her husband was working in Rescue department and he died in the accident that occurred in Anjan Hill mine on 6th May 2010. She

added that her husband was tired after work on rescue job since last 3-4 days but was still called on duty at 4 am on 6th May 2010. She stated that her husband was aware of the danger hence did not want to go down the mine but management forced him to do so. During cross-examination by management's representative, she submitted that her husband was not feeling well after returning from duty on 5th May 2010 because he was tired of working since 7 am till 6 pm.

6.4 Shrimati Sarita, the wife of late Dal Bahadur who died in the accident that occurred in Anjan Hill mine on 6th May 2010 was examined as WW-4. In her affidavit, marked as Exhibit W-6, she has submitted that her husband had not received rescue training. During cross-examination by management's representative, she submitted that her husband had gone for duty at 6:30 am on 6th May 2010. His friends told her that he had come out of the mine after collecting air sample at 9:00 am but was again sent to the mine.

6.5 Shri Siruvari Avinash, the son of deceased SECL employee late S. V. R. Raju, the then Senior Overman in Anjan Hill mine was examined as WW-5. In his affidavit marked as Exhibit W-7, he has stated that his father was a rescue trained person of repute and had won several awards in rescue competitions. He has submitted that SECL did not consider his qualification while offering him employment. Medical facility to his mother has been discontinued on the ground that her pension was more than Rs 4000/- and as per extant rules such facility can be extended to those drawing pension less than Rs 1500/-. He has further stated that offering Rs 5 lakh as

compensation was too less and it should be minimum Rs 20 lakh. He has requested that he may be allowed to continue living in same house which his father had occupied. He added further that Coal India Limited, a holding company of SECL, has advertised for the post of Management Trainee (System) and he was fully qualified for the said post. He has pleaded that he must be appointed to the post as there was vacancy and his father died in the accident in question. Shri U. W. Datey did not cross-examine WW-5.

6.6 Shrimati Ranmatia Bai, the wife of late Jagdish, deceased SECL employee, was examined as WW-8. In her affidavit marked as Exhibit W-11, she has submitted that while her husband was going to the mine and had travelled about 30-40 feet downwards, he felt an explosion followed by gust of hot air. He was thrown upwards and rolled like a football sustaining burn injuries. She added that SECL has given employment to her son but her two other sons and one daughter would not be getting medical benefit because they would not be called dependent on her son and her family pension would be more than Rs 1500/-. She pleaded that medical benefit should be extended to her and her dependent children as they were getting during the life time of her husband. Management's representative did not cross-examine WW-8.

6.7 Shri Bharat Lal, the son of a late Bansh Lal, the deceased SECL employee, was examined as WW-11. In his affidavit marked as Exhibit W-14, he has submitted that three days before the accident his father, timber-mazdoor by profession, his father told him that small blasts are taking place in the mine

and management is not taking it seriously and on the day of accident his father was going to the mine for erecting stopping and while on the way about 30-40 feet inside the mine mouth an explosion followed by sudden gust of air and fire occurred which threw his father upwards like a football resulting in burn injuries. He has further submitted that if there was a hospital with burn unit in Chirimiri with a good ambulance then many lives could be saved on the day of accident. Management's representative did not cross-examine him.

6.8 Shrimati Naina Singh, the wife of late Bali Singh, a deceased SECL employee, was examined as WW-9. In her affidavit marked as Exhibit W-12, she has submitted that her husband, a timber-mazdoor by profession, was on his way to underground workings for erecting stopping at the time of accident. While he had travelled about 30-40 feet downwards, an explosion followed by gust of air and fire was felt. He was thrown upwards like a football sustained burn injuries. In reply to questions during cross-examination by management's representative she said that SECL has given her employment in place of her husband.

6.9 Shri Lalit Singh, the close relative of late Bali Singh, a deceased employee of SECL, was examined as WW-12 in addition to Smt Naina Singh, the wife of late Bali Singh. In his affidavit, marked as Exhibit W-14, he has submitted that his uncle, a trammer-mazdoor by profession, had sustained 35-40% burn injuries in the accident to which he succumbed in hospital a week later. He submitted that the victim was going to the mine for erecting stopping.

While he had travelled about 30-40 feet downwards, an explosion followed by gust of fire and air was felt. He was thrown upwards and rolled like a football sustaining burn injuries. Management's representative did not cross-examine him.

6.10 Shri Vivek Kumar Navik, the son of deceased SECL employee late Swami Nath was examined as WW-14. In his affidavit, marked as Exhibit W-19, he has stated that his father, senior Overman in Anjan Hill mine, sustained burn injuries in the accident that occurred in Anjan Hill mine on 6th May 2010. Shri Navik has also mentioned that the employment given to him by SECL did not commensurate with his qualification and management is not keeping the assurance to provide other benefits to dependents of persons killed in accident such as providing tuition fees / hostel charges. In response to question during cross-examination by management's representative he replied that when his father was alive his two younger brothers aged 23 years and 16 years were not getting anything on account of education expenses but now after the death of his father, SECL has started giving tuition fee and hostel charges for them. He desired that SECL should also give the admission fee which is required to be paid every year.

6.11 Shri Akhtar Ali, close relative of Shri Gulam Mohammad, an employee of SECL who suffered permanent disability in the accident that occurred in Anjan Hill mine on 6th May 2010 was examined as WW-6. In his affidavit marked as Exhibit W-8, he has submitted that Shri Mohammad went under coma due to injuries sustained by him and lay completely paralysed but

SECL has discontinued medical facilities provided to him. He has further stated that SECL must offer employment to Shri Gulam Mohammad's son immediately so that his treatment as dependent of his son may continue. Management's representative did not cross-examination WW-6.

6.12 Shri Prakash, an employee of SECL who sustained serious injuries in the accident that occurred in Anjan Hill mine on 6th May 2010 could not present himself in the court as he was admitted in hospital. His wife Shrimati Prabhasini Gaur was examined on his behalf as WW-19. In the affidavit filed by Shri Prakash, marked as Exhibit W-24, he has submitted that while he was working, an explosion had occurred blowing hot air, coal dust and smoke in to his eyes, ears, nose and throat. He fell unconscious and consequently lost his sight in one of his eyes and impaired vision in another. Company has not yet paid any compensation to him. He desired that employment may be offered to his son in lieu of his job. Shrimati Prabhasini (WW-19) submitted that her husband was under treatment since accident. He cannot see and his hands & limbs are swollen. He has been in the hospital taking treatment following further deterioration of his condition since last eleven days. Management's representative did not cross-examine her.

6.13 Shri Brij Bhushan Singh, an employee of SECL was examined as WW-13. In his affidavit, marked as Exhibit W-16, he has submitted that he was standing near the mine mouth at the time of accident on 6th May 2010. Thereafter, he fell unconscious and remained under treatment in Apollo hospital Bilaspur for

seven days. He has further submitted that chest pain, headache, burning in eyes and feet injury still persisted and he was still under treatment. In support of his ongoing treatment, he produced Hospital's discharge certificate which was marked as Exhibit W-17. He also submitted that whenever he sought leave for taking treatment he was being marked absent. Photocopy of his leave application and management's letter marking him absent was produced as evidence which was marked as Exhibit W-18. Shri Singh desired that he may be offered light duty on surface. Shri U. W. Datey did not cross-examination.

6.14 Shri Ansar, an employee of SECL was examined as WW-10 and his affidavit was marked as Exhibit W-13. He stated that he was on duty in the control room of Anjan Hill mine at the time of accident. He fell unconscious after being entrapped amidst fire, gust of hot air and coal dust. He has submitted further that though he had received best worker award in the past he felt uneasy in the mine since the accident and therefore, he may be provided with a suitable job on surface. Management's representative did not cross-examine him.

6.15 Shri Lal Babu, an employee of SECL who sustained serious injuries in the accident that occurred on 6th May 2010 was examined as WW-36. In his affidavit, marked as Exhibit W-42, he has stated that he was on duty in the mine at the time of accident. Chief General Manager Shri S. S. Malhi was standing near the mine mouth and at that time sub Area Manager Shri K. C. Paul directed him to go down. Ball of fire and gust of air came out of the

mine by the time they had moved down by about 100 to 150 feet in-by of the mine mouth. Except the face and chest, his whole body sustained burn injuries. Some of his co-workers were hit against wall due to air pressure. In response to questions during cross-examination by management's representative he replied that it was wrong to say that his attendance was not marked in first shift either in Form-C or in Cap-lamp issue register. In reply to question by the Court he said that he worked in Anjan Hill mine and at about 9:30 am on the day of accident Late Swaminath, Supervisor had ordered him to go in the mine. Late Swaminath, Late A. M. Pal, Manager Shri J. N. Dash, late Jagdish, late Bali Singh, late Bansh Lal, Radhey Shyam, Gulam Habib and Mishra ji went to the mine with him. He entered the mine along with everyone at 11:10 am. By the time they were about 10 feet in-by of mine mouth ball of fire and hot dust erupted. He said he was not fully fit for work hence he should be given facility to work near his house. He further submitted that in his affidavit he has wrongly mentioned that they were 100-150 feet inside of the mine mouth at the time of accident. They had gone only 10-12 feet inside of mine mouth. He added that Cap lamp and self rescuer was being issued before entering the mine. He was also issued the same. The register kept in the mine for entering the record of issued cap lamp was shown to him and he did not find entry against his name.

6.16 Mohammad Irfan, Overman in Anjan Hill mine and active rescue trained person was examined as WW-26. Affidavit filed by him was marked as

Exhibit W-33 where he has submitted that he was appointed by Shri J.N. Dash, Manager as member of a rescue team for providing rescue cover to workers engaged in plastering / repairing of isolation stopping of Panel A1 and monitoring of mine environment. While he was providing rescue cover to workers and monitored gas in the panel a gust of air raising lot of coal dust was felt by him at 4:30 pm on 4th May 2010. Similar gust was felt by him at 7:30 pm on 5th May. He was summoned to come to mine at 8:00 am on 6th May 2010 for constituting a rescue team to provide rescue to persons scheduled to be engaged in Seam-III. One rescue team that was present underground informed that atmosphere in the mine was normal. While he was ready to go down the mine at about 11:15 am on 6th May 2010, a violent wave of air burst out off the mine mouth. Consequently, he fell down and became unconscious. He came to his sense in the hospital in Bilaspur. Management's representative did not cross-examine him.

- 6.17 Shri Brijeshwar Pandey, an employee of SECL was examined WW-7. In his affidavit, marked as Exhibit W-9, he has stated that sectionalisation was not done in the mine, subsidence and potholes were not being inspected regularly, coal dust was not being removed from roadways regularly and arrangement for water spraying was not made. He added that Nitrogen plant was not commissioned and large quantity of explosive was being store in underground. During cross-examination by Shri U. W. Datey on behalf of management, he submitted that he did not see but he had the knowledge about explosive being stored in underground. He said that this matter,

forming part of memorandum given by two trade unions, were discussed on 23rd and 25th March 2010. In support of his submission he produced the minutes of the meeting, marked as Exhibit W-10, wherein at item No. 96, Area Safety Officer Shri Sudhir Kumar (MW-10) has said that action for taking necessary permission for storage of explosive underground was underway. In reply to question during cross-examination by management's representative, Shri Pandey submitted that he was a van driver and did not have the knowledge of exact quantity of explosive required. He was not aware of the quantity of explosive permitted for use in Blasting Gallery method but had knowledge about explosive being taken in the mine in the quantities necessary for two to three eight hourly shifts.

- 6.18 Shri Anand Kumar Mishra, an employee of SECL was examined as WW-15 and his affidavit was marked as Exhibit W-20. He has submitted that the accident occurred due to causes beyond apprehension and management was very sincere in their action before and after the accident. Elucidating his view he said that bodies of four persons of the rescue team, who were killed in the accident underground, were found without the rescue apparatus worn on them. This indicated that condition in the mine before accident was normal and circumstances leading to explosion in the mine got built up suddenly in such a way that experienced rescue trained personnel could not use their rescue apparatus. In his submission, he added that the Anjan Hill Mine was degree I gassy and there was no history of fire hence possibility of eruption of inflammable gas and explosion in such mines was lean and

scarce. He has submitted that production activities in mine were put on hold and men were withdrawn from the mine on 3rd, 4th and 5th May 2010 following discovery of Carbon mono oxide and Methane in the return air. Only senior officials few workmen and rescue teams were working in the mine on 5th and 6th May 2010. Consequently, persons killed in the accident included experts, senior mine officials and rescue trained personnel. Precious lives were lost during saving the mine and making mine safe to operate. Shri U. W. Datey did not cross-examine him.

6.19 Shri Ram Avtar Algamkar, the Working President Rashtriya Khan Mazdoor Federation (INTUC) Bilaspur was examined as WW-16 and the affidavit filed by him was marked as Exhibit W-21. In his submission he has said that:

- There occurred three air blasts in the mine on 5th May 2010 which was indicative of explosions elsewhere in the mine but mine management misunderstood them as roof fall in the goaf.
- Two members of the second team namely Shri S. Z. Silo, Under Manager and Shri Nadim Baux, Surveyor returned back within half an hour leaving four behind in violation of Rescue Rules which require at least five persons in a team.
- Reasons for sending two untrained (without rescue training) persons namely, Late Dal Bahadur and Late Ravindra Shah, in the fan drift for collecting air sample are unknown given the fact that no persons other than rescue trained were allowed to go down the mine since the night shift on 5th May 2010.

- Their Union had raised the issue of treatment of coal dust in safety committee meetings several times but management did not take appropriate action.
- Terms of condition of permission granted by DGMS vide letter no. BSP/10674/Reg.100A/iii/87/09/4724 dated 27.11.2009 clause no. 1.4, 1.5, 1.6, 1.11 (b to c), 2.2, 4.2, 5.0, 5.1, 5.2, 7, 8.3 have not been followed.
- Quality of stopping in Panel A1 was not up to the standard. Panel A1 was sealed off with poor quality RCC stopping instead of standard isolation stopping.
- Cracks and potholes over sealed off Panel A1 and operating Panel A2 were not filled up properly.
- Unused workings and surface above the working areas were not being inspected as required under the statute. Proper precautions were not taken to detect and prevent surface fire.
- Open flame was sighted by Shri Pandey at 6 am on 6th May 2010 and information was sent to Sub-Area Manager. No action was taken by the sub Area Manager to withdraw rescue persons from underground.
- It may be ascertained whether the accident took place due to failure of a particular issue or an organizational failure.

In response to questions during cross-examination by Shri U. W. Datey Shri Algamkar replied that he did not remember the date on which he had gone to Anjan Hill Mine but he had gone there two to three months before the

accident. He had also gone to mine mouth on the day of accident and remained there for five to six days during recovery operation. However he had not gone in underground prior to accident during his visits. He said that lot of facts in his affidavit were based on regulation and documents and rest he learnt after talking to people assembled near the mine after the accident which included workmen, journalist.

6.20 Shri Bajrangi Shahi, Senior Overman in Anjan Hill Mine and General Secretary of Chirimiri Area Koyla Mazdoor Sabha (HMS) was examined as WW-17. Affidavit filed by him was marked as Exhibit W-22. He had also filed rejoinder which was marked as Exhibit W-23. In his affidavits, Shri Bajrangi Shahi has submitted that Anjan Hill Mine was inspected with a view to ensure safety in the mine by Executive Director (Safety) of Coal India Ltd on 20th April 2010, officer from DGMS on 9th August 2009 and 12th January 2010, officers from Internal Safety Organization of the company on 15th April 2010 and members of Safety Board of the company from time to time but none of them pointed out deficiencies related to coal dust/ gas. He added further that coal dust was being cleaned from time to time and arrangement for water spraying was made by commissioning 7 km long pipe line with water tank at the mine. Records of inspections show that old working and isolation stopping were being inspected regularly by Workman Inspector and competent persons. He has submitted that noxious gas was never found in the mine. Lighting of fire by local population in the dense forest above the surface of workings in Anjan Hill mine could have caused the accident. He

further added that all the persons killed in the accident excluding two officers, one employee of rescue room and a contractor worker (that is 10 out of 14) were members of his trade union. 25 to 30 workers among all who were injured in the accident also belonged to his trade union. Shri U. W. Datey cross-examined him. In response to questions during cross examination Shri Shahi submitted that water spraying in the mine was being done daily. He was given additional charge of getting the pothole filled since 1st March 2009 and whenever management informed him, he tried to get the pothole lying in dense forest and at a distance of 6 km from the mine filled. He said that he was at the mine mouth on the day of accident. In response to questions during cross-examination by Shri Akhtar Javed Usmani of Koyla Mazdoor Sabha appearing on behalf of workmen, Shri Shahi replied that there was adequate quantity of water available for spraying in the mine.

6.21 Shri Akhtar Javed Usmani representing Koyla Mazdoor Sabha was examined as WW-18. In his affidavit, marked as Exhibit W-24 and rejoinder filed by him marked as Exhibit W-25, Shri Usmani has submitted that Directorate General of Mines Safety (DGMS) has powers under law to grant permission to the owner for extracting coal from any part of the mine by adopting such method and subject to certain conditions that may deem safe by it for the particular mine. DGMS also has powers under law to point out contraventions of provisions of mine safety law in the mine, issue notices and suspend any unsafe operation till compliance of provisions. He alleged that management was unwilling to enforce compliance of conditions of

permission and DGMS did not act or use powers vested in it. In support of his allegation he has submitted as follows:

- Permission for extracting pillars using Blasting Gallery method was granted by the DGMS on trial basis but neither the DGMS nor mine management was experienced or equipped enough to meet any eventuality.
- Quality of isolation stoppings constructed to isolate Panel A1 from Panel A2 as required under the permission order was poor.
- One of the conditions in the permission letter for extraction of coal from Panel A1 and A2 required management to pour Nitrogen in goaf but Nitrogen generating plant never worked.
- DGMS failed to ensure compliance of conditions laid down in the permission letter. Neither notice was issued nor unsafe operations suspended by the DGMS even after observing contravention during inspection of the mine on 5.3.2009 & 9.8.2009.
- Management neglected safety, did not provide funds for commissioning and operating Nitrogen Plant, did not provide funds for construction of proper isolation stoppings, cut down on manpower utilised for transportation of explosives by constructing underground explosive magazine for storing tonnes of explosives; and enhanced production target.

- No arrangement was made for quick and effective blanketing of surface subsidence and cracks in spite of the fact that management was aware of the existence of pot holes with blazing fire on surface over old workings.
- Two senior members of the rescue team came out of the mine in the morning of 6.5.10 leaving four other members in the mine without any means of communication. At the same time two other workmen who had neither received rescue training nor escorted by competent supervisor and without equipping themselves with self-rescuer were sent for collecting air samples from underground. Unfortunately all six died in the accident

In reply to a question during cross examination by Shri U. W. Datey, Shri Usmani said that there was difference between two permissions granted by DGMS, for instance, incubation period in first permission order was nine months and in the second permission was six months; first permission order was given on trial basis and second permission order was given on experimental basis. So far as the first permission is concerned SECL extracted coal from Panel A1 in beyond nine months and no difference was observed between trial and experimental. He said that if a panel was properly sealed after extraction and coal was not exposed to oxidation then it would not catch fire. But panel A1 was extracted beyond the incubation period and not sealed properly hence it caught fire. The management has not complied with the conditions imposed in the both permission by flushing of Nitrogen / Carbon-di-Oxide gas for cooling down the atmosphere so that

there may not be fire. He added that it was not true to suggest that he had filed the affidavit pointing out the infirmities on the part of management because of personal vendetta.

6.22 Shri Imrat Lal Choudhary working as Mine Foreman in Anjan Hill Mine was examined as WW-20. In his affidavit marked as Exhibit W-27, he has submitted that the accident could have been averted had due attention was paid to the movements occurring in the mine. Management's representative did not cross-examine him.

6.23 Shri Mahattam Singh was examined as WW-21. In his affidavit marked as Exhibit W-28, he has submitted that conditions leading to accident were brewing up in the mine since long but mine management in connivance with supervisory personnel deployed in safety department did not take corrective action. He added that the job of filling up the cracks / potholes on the surface executed by contractors was an eyewash, sectionalisation was not done in the mine and material used for building isolation stopping was of poor quality, adequate arrangement was not made for suppression of dust in return airway and belt conveyor roadway & suggestions made by safety committee in this regard were ignored and despite the advice of DGMS officials, Nitrogen gas was not filled in the mine in time bound manner. In reply to questions during cross-examination by Shri U. W. Datey, he submitted that he was working in Bartunga Hill mine which is at a distance of 2 km from Anjan Hill Mine since last more than eight years. He did not remember when he worked in Anjan Hill Mine. He also did not remember the

shift in which he was working on the day of accident. On receipt of information about the accident he along with Shri Sanjay Tiwari went to Anjan Hill Mine without taking any official permission. He said that his knowledge about the accident was based on documents which he neither annexed with his affidavit nor producing now. In response to cross-examination by Shri Bajrangi Shahi representing Koyla Mazdoor Sabha and appearing on behalf of workmen, he replied that he did not know how many supervisors work in safety department of Anjan Hill Mine. He said he has never worked in the safety department and has never been to the safety department of Anjan Hill mine after my transfer from Anjan Hill Mine.

6.24 Shri Ram Kumar Kanaujia, an employee of SECL and Area Secretary of Koyla Shramik Sangh (CITU) was examined as WW-22. In his affidavit marked as W-29, he has submitted that:

- Anjan Hill mine was inspected by an officer from Directorate General of Mines Safety few days before the accident but defects contributing to the accident could not be removed.
- Carelessness by the management led to occurrence of accident such as non removal of excess accumulated coal dust on a regular basis, not analyzing gas samples from the mine on daily basis, sending non-rescue trained persons underground along with the rescue team, storing large quantity of explosive underground without obtaining required permission and not pouring Nitrogen gas in contravention of the condition of permission granted by DGMS.

In response to questions during cross-examination by Shri U. W. Datey, he replied that he was working as telephone operator in NCPH colliery since last 17 year and facts given in his affidavit were based on personal knowledge gathered during inspection of the mine and rest are based on information from public. In reply to the question as what do you mean by 'excess' (in reference to coal dust accumulation), witness said that there were small heaps of coal dust at few places in travelling roadway and to describe this he used the word 'excess'. However Colliery Manager had told him that coal dust has been heaped for sending to surface. He had seen workers engaged in collecting coal dust during his stay in underground for one and half hour excluding the journey time.

- 6.25 Shri Shankar Rao, an employee of SECL and President of SEKMS (INTUC) in Chirimiri Area & Member of Joint Advisory Committee was examined as WW-23. In his affidavit marked as Exhibit W-30, he has submitted that intelligent steps taken by Chief General Manager (CGM), Shri S. S. Malhi saved three to four hundred lives. He said that CGM, in the meeting with officials and Area Advisory Committee, had given instruction to all the officers in the area not to compromise with safety. Management's representative did not cross-examine him.
- 6.26 Shri Sanjay Kumar Verma an employee of SECL and Member of Area Safety Committee of HMS Union was examined as WW-24. In his affidavit marked as Exhibit W-31, he has submitted that Chief General Manager used to investigate and implement advices given to him on safety matters such as

closing / covering the pot hole above panel A1 after it was created in order to avoid any incident of fire in the mine. He added that the management laid pipe line for water spraying to control dust on their advice. Management's representative did not cross-examine him.

6.27 Shri Digambar Singh an employee of SECL and Branch President of INTUC was examined as WW-25. In his affidavit, marked as Exhibit W-32, he has submitted that Shri S. S. Malhi, Chief General Manager had come to the mine at about 10:40 AM on 6th May 2010 and asked workmen to go on the hill for filling up the pothole. In the mean time at about 11:30 AM gust of hot air and coal dust blew out of the mine mouth. He was covered with coal dust along with many other workmen including the Chief General Manager. He added further that the nature of disaster would have been worse endangering hundreds of lives if Chief General Manager had not ordered stoppage of mine workings on the previous day. The witness has alleged that Shri Bajrangi Shahi who was entrusted with the responsibility of supervision, spraying water in the mine and covering pot holes on the surface did not discharge his duties with sincerity and responsibility. Management's representative did not cross-examine him. In response to questions during cross-examination by Shri Bajrangi Shahi representing Koyla Mazdoor Sabha and appearing on behalf of workmen, Shri Singh replied that he was working in Anjan Hill Mine since 1999 and it was not true that allegation made against Shri Bajrangi Shahi is false. He has verbally

complained about Bajrangi Shahi's carelessness to the then Manager S/Shri Nirmal Kumar, Dinesh Gupta and others.

6.28 Shri Shesh Mani Garg, President of Anjan Hill Branch of HMS Union and working as Senior Overman in Anjan Hill Mine, was examined as WW-27. In his affidavit marked as Exhibit W-34, he has submitted that as soon as he got the information about the accident he went to regional hospital and helped injured persons. Management's representative did not cross-examine him.

6.29 Shri Jagbandhu, an employee of SECL, was examined as WW-28. In his affidavit marked as Exhibit W-35, he has submitted that the Colliery Manager informed him at about 7:30 PM on 5th May 2010 that dust has gushed out of the mine and asked him to reach the mine. He went down the mine with Colliery Manager and learnt that all workers were safe. Thereafter, management withdrew all workers from the mine at about 9:30 PM on 5th May 2010. While he was sitting outside the attendance room, a stream of dust flew out of the mine mouth at about 11:30 AM. He fled away and hid himself in the room. When he came out of his hiding after few minutes, he saw many injured persons were lying on the surface. Management's representative did not cross-examine him.

6.30 Shri Khwaja Shahenshah Ali, Senior Overman in Anjan Hill Mine as examined as WW-29. In his affidavit, marked as Exhibit W-36, he has submitted that he accompanied the rescue team on 3rd May 2010 and found that stopping was being repaired / plastered. His team provided rescue cover to workers

at the junction of 81st Level & 56th Dip. On 4th May 2010, he flushed Carbon di-oxide in the goaf and provided rescue cover to workers in the night shift. He again reported for duty in the night shift of 5th May 2010 and found workers sitting on the surface as production activities in the mine had been suspended. While he was about 100 m inside of the mine mouth on way to collect air samples from return airway at about 1:30 am on 6th May 2010, gust of air coming out of the mine was felt. He was part of a rescue team along with other rescue men under the leadership of Shri Dhangar. They returned back to surface. He was instructed to go to return airway after putting on self contained breathing apparatus. Rescue team under his leadership went down at about 2:30 am on 6th May 2010 and collected samples from return airways of all the three sections in the mine. Concentration of Oxygen, Carbon di-oxide, Carbon mono-oxide and Methane in the return of Seam-III was found to be 15%, 2%, 2000 ppm and 0.80% respectively. His team again went down at about 5:00 am on 6th May 2010 to inspect isolation stopping of Panel A1 and found the atmosphere normal. Atmosphere in Panel A2 was also found normal. He did not see fire or detected gas in the area assigned to him for inspection. Management's representative did not cross-examine him. In response to questions put up by the Court of Inquiry, Shri Khwaja Shahenshah Ali replied that two rescue teams were constituted in the night shift on 5th May 2010 (between 5:00 and 5:30 am on 6th May'10). He was in Team-A and Late Tapan Sarkar was in Team-B. There were six persons in Team-A with breathing apparatus

(BG174). Team-B had six persons with self rescuer (self rescuer means such equipment that can be worn for coming out of the mine in the event of gas eruption and has the capacity of half an hour. Equipment with Team-A had the capacity of one and half hours). Team-A was leading Team-B by a distance of 100-150 m. Shri P.K. Mitra was with Team-B. Late Goswami remained on the surface. Shri P.K. Mitra was accompanied with Shri Ramjet Singh, Junior Brigade Member. They had also worn self rescuer. Team-A inspected the mine (Panel A1 and A2) and did not find any noxious gas. Between about 8:45 am and 9:00 am Shri Mitra asked Team-A to go back (to surface) and instructed Team-B to remain in underground till his instruction. At that time he had suggested Shri Mitra that it would be better if both teams went back to surface. Thereafter, Shri Mitra went near Team-B and consulted with Late Tapan Sarkar. He came back told them that Late Goswami wanted Team-B to stay back hence Late Tapan Sarkar decided to stay back. Thereafter, at about 9:30 am, Shri Mitra and Shri Ramjeet Singh returned back to surface with Team-B. On return Late Goswami enquired about the condition in the mine. He replied that the concentration of gas detected near Panel A1 was within limit and showed him the report. Team-B had following members: Late S. V. R. Raju, Late Tapan Sarkar, Shri Nadim Baux, Shri Z. Sailo, Late Abhishek Mishra and Late Santosh Yadav. No further cross-examination was carried out by Shri U. W. Datey.

6.31 Shri Mochiram Dalai, Area Joint Secretary, Koyla Shramik Sangh (CITU) and member of Area Safety Committee was examined as WW-30. In his affidavit,

marked as Exhibit W-37, he has submitted that his trade union, Koyla Shramik Sangh has continuously been drawing attention of the management on safety related issues. Accident at Anjan Hill Mine was an outcome of management's negligence such as maintaining single return airway for the mine, accumulation of coal dust in galleries, creation of pothole on surface due to blasting underground, not sectionalizing the mine workings before start of extraction work, storing explosive in the mine etc. He added further that Late Dal Bahadur and Ravindra shah, who had not received rescue training, were sent with the rescue team. Management did not pay attention to DGMS's order of flushing goaf with Nitrogen or Carbon di-Oxide in the mine regularly. Survey department of the mine did not take the inspection of surface subsidence seriously. In response to questions during cross-examination by Shri U. W. Datey, he replied that facts given in his affidavit was based on his personal knowledge. Anjan Hill Mine was last inspected by him on 23rd April 2010. He had seen coal dust in return airway during his inspection. Coal dust in the return gallery was up to 8" height. He also saw coal dust in galleries being cleaned.

6.32 Shri Somnath Pradhan, Member, Area welfare Committee, AITUC Union was examined as WW-31. In his affidavit, marked as Exhibit W-38, he has submitted that a high capacity pump was installed at the Anjan Hill mine for bringing water for spraying in the mine from a distant source but water in the source drain went dry within 7 days of completion of the project valued at about Rs 2 crores and completion time was nearly 2 years. He has

requested for examining the role of civil department of the area for failure of this project which indirectly attributed to the accident. He was not cross-examined by anyone.

6.33 Shri Surendra Singh, an employee of SECL and President-Central of Bhartiya Koyla Khadan Mazdoor Sangh, Chhattisgarh was examined as WW-32. In his affidavit, marked as Exhibit W-39, he has submitted that non working area in the mine should be inspected regularly. He said that shortage of water for spraying; dry workings in seam-III, accumulation of dust in large quantities and poor quality of stopping were the reasons for accident. No one cross-examined him.

6.34 Shri Siddhnath Tripathy, an employee of SECL and General Secretary (Regional) Bhartiya Koyla Khadan Mazdoor Sangh was examined as WW-33. In his affidavit, marked as Exhibit W-40, he has submitted that shortage of water for spraying; dry workings in seam-III, accumulation of dust in large quantities and poor quality of stopping were the reasons for accident. Management's representative did not cross-examine him.

6.35 Mohammad Amin Khan, an employee of SECL and company level Secretary of Indian National Mine Official Staff & Shotfirer Association (INMOSSA) was examined as WW-34. In his affidavit, marked as Exhibit W-41, he has submitted that negligent and faulty mining practices resulted in the accident. Layer of coal dust was getting accumulated in the mine and proper procedure was not followed for controlling the gas leakage after its presence was felt in air. Putting the responsibility of accident directly on mine

management including Chairman cum Managing Director of the company, officers from Internal Safety Organisation and officials from Directorate General of Mines Safety, he has exposed following irregularities:

- Management operated the mine in an unsafe manner by ignoring recommendations made by members of the mine & Area Safety Committees.
- Tele-monitoring system was not installed in such a sensitive mine.
- Condition in the mine was so unsafe that even rescue trained persons could not save their lives. Rescue Superintendent did not guide their teams properly.

In response to questions during cross-examination by Shri U. W. Datey, he replied that he had been to Anjan Hill mine two months prior to the accident for meeting his union members. He did not go underground and it not true to suggest that information given in his affidavit was wrong.

6.36 Shri Nadim Baux, an employee of SECL and rescue trained worker was examined as WW-35. He had not submitted his affidavit. However he was examined on the oral request made by Shri Bajrangi Shahi and Shri Akhtar Javed Usmani on the ground since he was a part of rescue team-B he would be in a position to place it before Court of inquiry as to under what circumstances rescue team-B was sent and cause of accident in which 4 other members of rescue team died. In the course of examination Shri Nadim Baux has stated that he had gone underground with rescue Team-B at 5:00 am in the morning on 6th May, 2010 along with five other members

of the team and his team reached fresh air base at 6:20 am and waited there. The team captain had told them that eight isolation stopping of Panel A1 was to be inspected with the help of MiniWarn. In response to questions during cross-examination by Shri Bajrangi Shahi, he replied that he had taken initial training in rescue and recovery in April 2010. He supplemented that the members of Team-B neither wore BG174 nor carried with them and he was not aware as to how much percentage of carbon mono oxide was present in the mine and he only knew that rescue operation is going on in the mine. It is his statement he was sent in team-B by Shri Mitra, Rescue Superintendent and Panel A1 was inspected after going to the mine and although 200 ppm of carbon mono oxide was found leaking from isolation stopping, at a distance of one meter from the stopping concentration of Carbon mono-oxide was only 15 ppm and oxygen was normal. He further stated that under these circumstances it was not necessary for the rescue team to wear self rescuer. He also stated that six self contained breathing apparatus (BG174) were kept at the fresh air base and the distance between mine mouth and fresh air base could be covered in 25-30 minutes and team Captain late S. V. R. Raju had ordered him and Shri Z. Sailo to go to the surface with self rescuer; he did not question the order given by team captain because as per rescue rules argument is not done with the team captain; he was not aware how four members of his team died; he felt that Late Goswami had ordered the team to go underground. In reply to the

question by Court he added Shri Mitra and Shri Ramjet Singh were not wearing BG174.

- 6.37 Shri Sunil Kumar Chourasia, Chief Editor of a local daily newspaper was examined as JW-1. He produced old issues of his newspaper along with his affidavit and the same was marked as Exhibit J-1. He has requested the court to take note of published reports. He was not cross-examined by anyone.
- 6.38 Shri Ratan Kumar Jain, an environment activist, was examined as JW-2. In his affidavit, marked as Exhibit J-2, he has submitted that SECL management was operating Anjan Hill Mine in reserve forest area without obtaining necessary clearances under the Forest Protection Act, 1980. He was not cross examined by anyone.
- 6.39 Shri Vidyanand Thakur, Chief Editor and Shri Sunil Gupta, Special correspondent of weekly Hindi Newspaper 'Aaj ka Din' had jointly filed affidavit and Shri Sunil Kumar Gupta was examined as JW-3. Attaching copies of publication dated 15th April 2011, 1st June 2010 and 15th July 2010 with their affidavit, marked as Exhibit J-3, Shri Gupta has submitted that a Nitrogen plant was commissioned during the year 1999-2000 for controlling incidences of fire occurring in different collieries of Chirimiri area but the plant did not work even for a day for the last ten years. He was not cross examined by anyone.
- 6.40 Shri Nirmal Kumar, an employee of SECL and representing Indian Mine Managers Association was examined as OAW-1. In his affidavit, marked as

Exhibit OA-1. It is his evidence that unless the mine is re-opened and inspection of the mine is done it is not possible to find out real cause for the accident. He has further added that:

- Timely and brave decision to stop workers going down the mine in the night shift of 5th may and first shift of 6th May 2010 saved more than 250 lives.
- Local mine management had taken all possible precautions within the framework of law and used collective wisdom in taking decision under prevailing condition in the mine.
- Relevant laws did not debar entry of rescue persons in the mine. No parameter has been specified in the law for enabling the manager to take decision about prohibiting entry in the mine.

No one cross examined him.

6.41 Shri Rama Shankar Gupta, an employee of SECL representing Coal Mines Officers Association was examined as OAW-2. In his affidavit, marked as Exhibit OA-2, he has repeated the same as submitted by Shri Nirmal Kumar. In response to question during cross examination by Shri Akhtar Jawed Usmani, Shri Gupta has replied that he was not posted in Anjan Hill Mine during the period of incident on 6th May'10. He went to Anjan Hill Mine, stayed there between 12 noon to 12 midnight. He further stated that when the coal comes in contact with the oxygen a chemical reaction takes place and it produces some heat that process is called spontaneous heating of coal. If the heat generated was not taken away it may accumulate and may

result in fire. The rescue team is generally sent to locate the seat of fire and collect the samples of the mine environment. Even if the concentration of Carbon mono-oxide in mine is more than 5000 PPM according to him it is not unsafe to send the rescue trained persons in underground mine, as no risk is involved provided the mixture is not explosive in nature. No untrained persons can be sent to the underground if the concentration of Carbon mono-oxide is more than prescribed limit of 50 PPM.

- 6.42 Shri Surendra Kumar Sharma, an employee of SECL and representing Indian Mine Managers Association was examined as OAW-3. In his affidavit, marked as Exhibit OA-3, he has repeated the submissions made by Shri Nirmal Kumar. No one cross-examined Shri Sharma.
- 6.43 Shri Satyaveer Singh Dhangar, Rescue Superintendent and in-charge of Rescue Room in Chirimiri was examined as MW-1. In his affidavit, marked as Exhibit M-1, he has submitted that on receiving telephonic information from Safety Officer of Anjan Hill Mine on 3rd May 2010 about detection of Carbon mono-oxide gas outside the sealed off Panel A1 in the mine, he inspected the mine at 6:00 pm on 3rd May 2010 along with Safety Officer and detected presence of Carbon mono-oxide at every place near all the stopping of panel A1 in quantities varying from 134 ppm to 744 ppm but no methane gas was found. He further stated as follows:
- He accompanied one rescue team with apparatus to provide rescue cover for repairing/plastering of isolation stopping at about 11:00 pm of 3rd May

2010 which continued during the night shift; quantities of Carbon mono-oxide near isolation stopping did not reduce, rather increased.

- He came out from the mine along with his rescue team at 8:30 am on 4th May 2010 and handed over charge to the next rescue team and re-entered the mine at 3.45 pm on the same day and came out at 12:30 am; level of Carbon mono-oxide in the mine had not reduced.
- While he was in the mine on 5th May 2010, he felt gust of air laden with coal dust coming out from panel A2 at 4.30 pm; Carbon mono-oxide was present in concentration varying between 30 to 200 ppm in all the air samples collected for finding out the reason / effect of dust cloud at 5:30 pm; dust cloud coming out of panel A2 was felt again at about 7:45 pm and analysis of air samples collected thereafter showed presence of high levels of Carbon mono-oxide varying between 56 to 2000 ppm; dust cloud was felt for the third time at about 10:45 pm and he came out of the mine at 11:00 pm with his team and other workers; samples collected from return of Local seam, Seam-I and Seam-III showed presence of 71, 24 and more than 2000 ppm of Carbon mono-oxide respectively.
- He went to seam-I at 1:20 am of 6th 2010 to check the gas behind ventilation door and while he and his team were going down the mine, they felt outburst of coal dust (coal cloud); while leaving the mine at 9:30 am on 6th May 2010, he talked to Rescue Superintendent over telephone who told that the mine was inspected by him and he did not find anything abnormal.

- On the day of accident he reached the mine at 12:10 pm. Rescue and recovery operation was continuing; mine was sealed off on 24th May 2010.

In response to questions during cross-examination by Shri Bajrangi Shahi representing Koyla Mazdoor Sabha and appearing on behalf of workmen, he replied that he was in underground mine during 2nd shift of 5th May 2010 and everybody in the mine including the rescue team was out of the mine by 10:00 pm and thereafter, he updated Mr. P. K Mitra, Rescue Superintendent that concentration of the Carbon Monoxide gas was 5521 ppm. Shri Mitra, who was at Manendragarh Rescue station, came to the mine at 1:30 am. Shri Dhangar said that he was not at the mine at the time Rescue Team was sent at 6:00 am. In response to a question that whether he would have sent rescue team in the mine if he was in-charge, he replied in the negative. He replied further that he left the mine at 5:00 am after handing over the charge to Mr. P. K. Mitra and there is nothing in writing to show that he handed over charge to Mr. P K Mitra and informed about the concentration of Carbon Monoxide and he admitted that he did not tell Shri P. K. Mitra not to send the Rescue Team in the mine because Shri Mitra, a superior officer, was present at the mine and was aware of the situation. He also stated that a Consultative Committee was constituted on 6th of May 2010.

6.44 Shri Surya Vikram Pratap Singh, Ventilation Officer in Anjan Hill Mine was examined as MW-2. Being a part of mine management team he was responsible for maintaining adequate ventilation in the mine. His affidavit

and other documents produced in the court such as his note on the report of air sample analysis by gas chromatograph, entry in control room register and also entry in his statutory inspection diary were marked as Exhibit M-2, M-2A, M-2B & M-2C respectively. He has submitted that:

- He and his team analysed mine air for presence of Carbon mono Oxide in Panel A1 as well as A2 at an interval of every seven days but Carbon mono-oxide was never found in the working area but presence of Carbon mono-oxide was detected in the atmosphere behind and in leakage through stopping; mine was degree-I gassy.
- Seam-III workings were more than seventy years old and no panels were formed therefore, 20 stoppings were being constructed for the purpose of sectionalisation; 13 out of 20 had been completed.
- Adequate ventilation as per statue; isolation stopping, old and unused workings, ventilation devices and mechanical ventilator were being inspected regularly and records of inspections were being maintained.
- Coal dust was being removed from workings in Panel A1 as well as panel A2 on regular basis and removal of fallen coal from old workings was more or less completed; Carbon di-Oxide was being flushed for inertisation against fire; incombustible dust was being spread and arrangement for water spraying as required under regulations for was being maintained regularly.
- Presence of 446 ppm of Carbon mono-oxide was detected in the atmosphere behind stopping in Panel A1 on 3rd May 2010; he met CGM,

GM(O), Area Safety officer and Rescue Room in-charge in the mine in the night shift of 3rd May 2010 and they decided to build another row of stoppings in front of the old ones. He further stated that he again went in the mine in the night shift of 4th May 2010; recess cutting for the new stopping continued under rescue cover.

- He came to the mine at 7:00 pm on 5th May 2010 and saw the report of analysis of air samples collected from main return and found presence of 5000 ppm of Carbon mono-oxide and traces of Hydrogen; senior officers were reported. He further stated that gust of air laden with coal dust was felt coming out of mine mouth at 7:30 pm, 10:15 pm of 5th May and 1:15 am of 6th May 2010 but men working underground were withdrawn by 9:30 pm on 5th May and rescue teams continued measuring gas content using hand held apparatus and collecting air samples and they detected built up of more than 2000 ppm in the return airway of seam-III at 2:30 am on 6th May 2010.
- At 5:00 am on 6th May, a team of six persons were sent to inspect the surface for searching crack/subsidence over Sea-III working and he returned home; he reached the mine again at 11:00 am and found some persons alongwith GM(O) standing near the mine mouth and thereafter at about 11:20 am a violent expulsion of air and coal dust was seen coming out of mine mouth.

In response to questions during cross-examination by Shri Akhtar Jawed Usmani, he testified that the note on the Xerox copy of report of analysis of

gas by Chromatography, marked as M-2AA, was written by him. He further admitted that the note on the Xerox copy of Control Room report, marked as M-2BA, was written by him. He also admitted that copies of the pages, marked as M-2CA, M-2CB & M-2CC were from the Manager's diary written by him.

6.45 Shri P. K. Mitra, Rescue Superintendent posted at Mines Rescue Station, Manendragarh, Hasdeo Area till the incident that occurred in Anjan Hill Mine on 6th May 2010 was examined as MW-3. He had also sustained serious injuries in the said incident and has not yet recovered fully. He had not filed affidavit because he was not well. The Court observed that this witness was completely crippled and he lost his fingers on right hand and grafting has been done in his left hand. He appeared before the court in spite of him not being physically very fit. He explained since he was hospitalised and his health condition was very bad he did not file the affidavit with regard to the accident before the commission. During examination he said that he came to Anjan Hill mine on 6th May 2010 after midnight on receipt of information from the officer in-charge one Shri S.S. Dhangar at around 12 midnight and brought six Self Contained Breathing Apparatus and two Maxaman reviving apparatus; Chief General Manager of Chirimiri Area Shri Malhi, General Manager (Operation) late S.K. Goswami, Sub Area Manager Shri K.C. Paul, Manager Shri J.N. Dash and rescue room in-charge were present at the mine and were discussing the situation of the underground mine and thereafter they decided to send few persons on the surface area to find out pot holes

and to send a team of six rescue trained persons underground; only one team was sent under the leadership of one Shri K.S. Ali at around 2:15 to 2:30 am because the place was nearby i.e. return air gallery of all the three seams but he did not go along with the rescue team; the rescue team which was reporting to local officers as referred above returned back after half an hour. He further stated that on the instruction of GM (O) late Goswami, two teams were constituted, Team-A and Team-B, for inspecting sealed off panel A1, panel A2 and return roadways of panel A2 and sent underground at around 5:30 am; the Team-A, led by Shri K.S. Ali was proceeding first and Team-B was following them at a distance of 100 m and he also accompanied Team-B along with Shri Ramjeet Singh, Rescue Brigade Member. He stated that the Team-A comprising of six rescue trained persons wore Self Contained Breathing Apparatus without coupling and carried MiniWarn multi gas detector whereas the Team-B comprising of six rescue trained persons carried Self Contained Self Rescuers; he and Shri Ramjeet Singh were also carrying the Self Contained Self Rescuers. He explained that the capacity of the apparatus carried by the Team-A, Self Contained Breathing Apparatus, was 4 hours but in accordance to Mines Rescue Rules, it is required to be used for one and half hour and the capacity of the apparatus carried by Team-B, Self Contained Self Rescuer, was 30 to 35 minutes which was used at the time of emergency. He stated further that as per the instruction of GM (O) late Goswami, both teams, he and Shri Ramjeet Singh reached at Fresh Air Base located at 55th dip off 81st level; inspected sealed off panel A-1 all

around and panel A-2 including its return airway and found the condition normal in all these places. He stated further that he returned to the surface along with members of Team-A by about 8:30 am and communicated their observations to the GM (O) leaving behind Team-B because late Tapan Sarkar of Team-B, who was second senior most official in Rescue Room Chirimiri had informed him that GM (O) has instructed Team-B to stay back. He further stated that the team which had gone to inspect the surface area had reported sighting of flame coming out of a pothole at about 10:30 am and thereafter, he tried to persuade GM (O) to withdraw the rescue trained persons from the underground and GM (O) told him that he would be doing it. He added further that while a demonstration, organised for non-rescue trained persons on how to use self contained self rescuer, was continuing and officials were involved in planning the work, a shock wave with high force along with cloud of coal dust came out of the mine mouth at about 11:30 am inflicting injuries to all including him and turning the entire area black; he slipped and fell down in that incident losing his fingers and about 40% of both legs and hands and back were burned and even on the date of giving evidence today he was suffering not fully recovered after remaining in the hospital for more than three and half months. It is his evidence that at underground fresh air base station there were six numbers of self contained breathing apparatus and number of SCSR, Maxaman and other equipments and generally in the Rescue Room there is always 15 numbers of the Self Contained Breathing Apparatus; in addition to those 15 he had brought six

and therefore, out of 21, six were kept in the mine at the Fresh Air Base, six were in use by Team-A and nine such apparatus remained on the surface. In response to questions during cross-examination by Shri Bajrangi Shahi, he replied that he could not definitely say since when he was acting in-charge of the post of General Manager (Rescue), it may be about a week before the incident. He added that his superior officers were Shri A.K. Patra, CGM Hasdeo Area, Shri A.K. Singh, CGM (S&R), and Shri P.K. Roychoudhary Director (Tech) Operations. He further submitted that he had received the information about presence of Carbon mono-oxide in panel A1 from GM (O) Shri Goswami at around 9:00 am on 4th May 2010. The Team-B did not wear self contained breathing apparatus as 6 numbers of such apparatus were already stored at underground Fresh Air Base; in case of emergency Team-B was in position to use the Self Contained Self Rescuer which they were carrying and therefore, it was felt unnecessary to ask Team-B to wear or carry the Self Contained Breathing Apparatus. He admitted that on 5th of May 2010, the reading of gas chromatograph showed more than 5000 ppm of Carbon mono-oxide and the matter was discussed with Shri K.C. Paul, Agent, Shri S.S. Malhi, CGM, Late Goswami, GM (O), at 2:00 am on 6th May 2010. He also admitted that the handheld instrument used to detect Carbon Monoxide gas only to the maximum limit of measuring up to 2000 ppm and if the concentration was more then 2000, then the machine would not indicate so and the correct percentage of Carbon mono-oxide or other gases can be found out by gas chromatograph. He has stated that they had gone

down the mine under instruction of GM (O) late Goswami and after the monitoring the road ways & working panel of A-2 and Sealed off panel A-1 and other places he did not feel the conditions in the panel and roadways used were dangerous and it was only after receipt of information about blazing pothole, he felt the conditions in the mine were not safe for persons as stated earlier. He further stated that as per the Mine Rescue Rules, when the rescue team goes for the work of rescue and recovery they are bound to follow the instructions of principal officer present on the surface and on that day Shri J.N. Dash, Manager and late Goswami, GM (O) were present and late Goswami was senior to Shri Dash. According to him, the Manager was required to carry out instruction of GM (O) and he was not in a position to state as to how four of the six members of Team-B died and two returned back. He also stated that it may be possible that if the members of Team-B had worn Self Contained Self Rescuer in the event of poisonous gas coming out, they would have saved themselves.

6.46 Shri Bhoopendra Kumar Pandey, Assistant Colliery Manager was examined as MW-4. In his affidavit, marked as Exhibit M-3, he has submitted as follows:

- He came out of the mine after inspection at about 3:30 pm on 3rd May confirming presence of Carbon mono-oxide in sealed off panel A1; Rescue room in-charge was informed and it was decided to plaster sides and wall of isolation stopping immediately and construct another row of isolation stopping in front of existing ones.

- Working in the mine was suspended since 9:30 pm on 3rd May 2010 and protective works undertaken under rescue cover; none except those required for plastering and protective work were allowed to remain in the mine and emergency was declared and control room established.
- Repairing of leakages in isolation stopping continued on 4th May 2010. Workings in panel A2 was found free from noxious gas hence coal loading commenced since second shift of 4th May 2010.
- A gust of air laden with dust was felt at 4:30 pm on 5th May while he was standing near the junction of 78th level off 56th dip, he inspected the panel to find out the reason for blast and concluded that it could have been an outcome of major fall in the goaf; manager was informed. He further stated that the Colliery Manager had informed him that another outburst of similar type was felt at about 10:15 pm and requested him to come to the mine immediately; decision was taken to withdraw all men from the mine and persons were withdrawn from the mine. He stated further that rescue persons who were present in the mine reported presence of 5-10 ppm Carbon mono-oxide in the return airway of panel A2 which led to the conclusion that heating was taking place somewhere between up-cast shaft and last ventilation connection of panel A2.
- He went near the fan house to see if dry leaves were being burnt on the surface but found none; further search on the surface commenced at 2:00 am on 6th May but progress was slow due to darkness and thick forest cover and finally at 6:00 am on 6th may 2010 two old pot holes

above panel A1 were located, one of them was complete filled and another partly without any sign of heating or fire; 14 persons including Rescue Superintendent has gone underground at 5:30 am on 6th May 2010 and he went back home at 8:30 am.

- DGMS officials reached the mine at 4 pm on 7th may 2010 and thereafter first rescue team was sent underground at 7:40 pm; mine was sealed off from surface on 24th May 2010.
- Anjan Hill mine was degree-I gassy; percentage of methane content in Seam-III never exceeded the statutory limit during last 30 years of its working and all provisions for sampling of mine air and analysis thereafter, laid down under the statute, were being complied with; a scientific body (CIMFR, Dhanbad) had studied the mine before start of blasting gallery method in Seam-III and had suggested that the method was safe; negligible amount of methane gas was found in the bore holes during the survey conducted by CIMFR between September 2007 and December 2007 but methane content in general body air of the mine was nil.
- Sufficient number of qualified and experienced Mining engineers, supervisors & employees were deployed in the mine and arrangement for flushing Carbon di-oxide into goaf for inertisation of atmosphere behind isolation stopping was made as required under condition for permission granted by DGMS and fire sealant was also applied over left out coal in the area behind isolation stopping and mine environment was being

monitored in the mine in each shift regularly using hand held gas detecting instruments..

- Fresh survey of the surface above working panel A1 & A2 were undertaken for ascertaining depth of cover. However, due to difficult terrain and forest land, progress was slow.
- Seam-III was developed 70 years back without forming panels and present management planned to construct isolation stopping in three phases for sectionalisation, 13 stopping were completed and 7 were under construction.

In reply to questions during cross-examination by Shri Akhtar Jawed, he said that he did not know when the application for permission for extracting coal by BG Method from panel A-1 was filed before DGMS. He pointed out that Panel A-1 was sub divided in two parts, and each part was completed within 9 months and sealed off and therefore, conditions in the permission letter were have been compiled with; sub-division of the panel was permitted by the Area General Manager. He stated that water spraying was done on regular basis and he had not seen any pot hole with fire; he had only seen two old pot holes, but they were without any fire and he inspected the surface of Seam-III on 6th May 2010 between 5:30 am and 6:30 am.

6.47 Shri Somra Lomga, Assistant Colliery Manager in Anjan Hill Mine was examined as MW-4. He was on duty in the control room set up at the mine since 4th May 2011. Affidavit filed by him was marked as Exhibit M-4 wherein he has submitted that:

- He felt gust of air on the surface at about 4:30 pm on 5th May 2010; suspected that it was due to fall of roof in the mine; similar blast was again felt at 7:30 pm on the same day; person in-charge of Panel A2 in the second shift, however, reported him that there was no noticeable symptom of air blast in the panel other than a loud noise heard in the goaf; after inspecting underground workings, in-charge of the rescue room returned back to the surface at 9.00 pm on 5th May 2010 and thereafter, decision to withdraw all persons from the mine was taken.
- Gust of air coming out of the mine was felt for the third time at around 10:05 pm on 5th May 2010; hand held device was used to detect presence of gas in main return airway and results communicated to the Manager; he along with other officials was ready at the surface to go down the mine at 11:30 am of 6th May 2010 and suddenly a cloud of black coal dust gushed out of mine mouth inflicting injuries to persons standing nearby and injured persons were rushed to regional hospital for treatment.

In reply to questions during cross examination by Shri Akhtar Javed Usmani, he said that prior to adoption of Blasting Gallery Method, fallen coal was being collected by Load Haul Dump machine (LHD) and as far as Anjan Hill mine is concerned, it was developed by Bord and Pillar Method. He further stated that about 4.30 p.m. on 5th May 2010, he noticed certain blast of air in Adit-B and at that time Central Dispatch System, Operator was present in the control room along with him.

6.48 Shri Gopal Das Daharia, Deputy Surveyor in Anjan Hill Mine was examined as MW-6. In his affidavit, marked as Exhibit M-5, he has submitted that survey work of Seam-III was under his charge since the year 2005. He further added as follows:

- Depth of cover over Panel A1 was calculated on the basis of plan; re-correlation survey was conducted after the pot hole got created during commencement of operation in panel A1.
- He was summoned to come to the mine at 10:00 pm on 5th May 2010 and was asked go with a team of six persons under the leadership of Shri B. K. Pandey to inspect the surface above old development area where two pot holes had got created; they walked till 2:00 am but had to suspend their movement till the daybreak because they had lost their way and they could locate the potholes in the morning.
- There were two old potholes, one above the junction of 74th Level & 80th Rise was filled and another above the junction of 76th Level & 80th Rise was partly opened; he checked the open pothole with hand held apparatus and did not find any indication of fire or noxious gas; however, a piece of stone lying near the pothole had blackened surface and the matter was reported to the manager by 6:00 am on 6th May 2010 over telephone and returned back to the mine by 7:00 am.
- On being summoned by Survey Office at 10:00 am, he reported for duty and started working on the plan and at that time all of a sudden dust flew

out of the mine mouth and when he came out of his office, he saw many injured persons on the surface.

In reply to questions during cross-examination by Shri Akhtar Javed Usmani, he said that he was not the colliery surveyor at the time of accident and Shri S. K. Sinha was the colliery surveyor at that time and he was with colliery surveyor on the day (6th May 2010) of accident; he and colliery surveyor have jointly did the survey work but colliery surveyor has signed the accident site plan. He further submitted that he worked with colliery surveyor Shri R. A. Gupta during preparation of plan for knowing the cover thickness for the purpose of seeking permission of Panel A1. He also stated that the difference between depth of cover as per plan submitted with DGMS for permission and as per correlation survey varied due to undulating surface and the difference was about 10 m. He denied the suggestion that he had wrongly quoted the difference as 10 m. He further stated that the pothole created on 18th January 2009 was initially of 2 m x 2 m size and later it became 6 m x 6 m and the size of pothole increased in 15 days duration and depth of the pothole was not measured because it appeared dangerous from close distance. He further stated that the pot hole was filled by throwing soil from a distance and they used to go to see surface subsidence regularly and to survey the same using instrument once in a month.

6.49 Shri Tarun Kumar Dubey, Superintendent of Mines in Anjan Hill Mine was examined as MW-7. In his affidavit, marked as Exhibit M-6, has submitted as follows:

- He learnt about presence of Carbon mono-oxide in sealed off Panel A1 at 3:00 pm on 3rd May 2010; he rushed underground for inspection and found that Carbon mono-oxide and other noxious gas were leaking from stopping of Panel A1 and Rescue Superintendent and Workman Inspector accompanied him during inspection.
- Decision was taken to plaster the isolation stopping and sides immediately and erect row of explosion proof stopping in front of existing ones.
- Working in Panel A2 was suspended from 9:30 pm on 3rd May 2010; groove cutting for new stopping and plastering of existing stopping continued under rescue cover and normal working resumed in Panel A2 in the second shift on 4th May.
- At about 4:30 pm on 5th May blast of air laden with coal dust was seen coming out of the mine; he went down the mine to find the cause and everything appeared normal in Panel A2; it was inferred that the blast was an outcome of main fall in the goaf; work continued in the mine; similar blast of lesser intensity was felt at 7:35 pm and again at 10:10 pm on 5th May 2010 and decision was taken to withdraw all men from underground; rescue persons reported presence of 5-10 ppm Carbon mono-oxide near isolation stopping of Panel A1 but main return airway had concentration of 5521 ppm and from that it was inferred that heating is taking place somewhere between up-cast shaft and last ventilation connection of Panel A2 and therefore instructions were given to inspect

area near fan house to check the presence of surface fire due to burning of dry leaves but no such indication was found.

- A team of six persons were sent at 2:00 am on 6th May to inspect potholes on the surface above old development area and they reported that there were two old potholes, one was filled and another partly open and there were no indication of fire or noxious gas but there was black soot near one of the pothole.
- 14 persons had gone down the mine at 5:35 am on 6th May 2010, 8 persons including rescue superintendent returned back by 9:00 am leaving six persons at fresh air base underground.
- 4 persons were sent to surface for filling up the potholes; regular monitoring of air samples from fan drift was undertaken by rescue teams after the accident.
- Officials from DGMS arrived at the mine by 4 pm on 7th May 2010 and first rescue team went underground at 7:40 pm on 7th May for carrying out rescue work. Mine was sealed off from surface on 24th May 2010.
- 39 persons had sustained injuries and were receiving treatment at different hospitals; unfortunately 8 of them succumbed to injuries and six persons who were underground at the time of accident lost their lives and their bodies were recovered from the mine after hectic search operation carried out between 6th May and 11th May.

- 7 km long pipeline was laid to bring water to the mine for spraying and mine environment was being monitored in the mine in each shift regularly using hand held gas detecting instruments.
- Meetings of safety committee were being held regularly and suggestions given in the meetings were implemented.

In answer to questions during cross-examination by Shri Bajrangi Shahi, he said that he was working as Safety Officer in Anjan Hill Mine since 6th March 2009 and Safety Officer's job was to bring safety awareness among workmen; he was informed by Manager Shri J. N. Dash over telephone about leakage of Carbon mono-oxide from sealed off Panel A1; as instructed by manager, he informed rescue room in-charge Shri S.S.Dhangar and asked workman inspector to come to the mine and thereafter, he, Shri S. S. Dhangar and Shri A. M. Pal, Overman went underground at about 5:30 pm. He further stated that there were 13 isolation stoppings in Panel A1 and they inspected them from downwards (52 Dip/ 81-82 Level). He explained, isolation stopping means a wall built for isolating goaf from rest of the mine and goaf mean the area from where coal has been extracted. He also stated that concentration of Carbon mono-oxide near isolation stopping was not life-threatening; they had multi gas detector which could measure methane but not Hydrogen; he did not suspect presence of dangerous gas there and air blast occurred three times in the second shift on 5th May 2010 and on receipt of this information he had thought there was something wrong. He also pointed out that Shri Malhi, CGM, Late Goswami, GM(O), Shri Sudhir

Kumar, Area Safety Officer, Shri K. C. Pal, agent and Shri J. N. Dash, Manager had inspected the mine in the first shift on 5th May 2010 and Shri P. K. Mitra and two others from Rescue Station Manendragarh had also inspected Panel A1 and A2 on 4th May 2010 and he was aware that air samples were being sent to Chromatography lab for analysis every day since 3rd May'10 but he was not receiving its report and the report used to go to Shri S. V. P. Singh, Ventilation Officer. He further added that whenever there is oxidation of coal, Carbon mono Oxide is found. He explained, oxidation means when coal gets exposed to general atmosphere then process of oxidation begins and next stage of oxidation is heating and if the heat generated is not removed there is possibility that coal may catch fire on its own. He further stated that cement plastering was being done at leaking places to stop the leakage of Carbon mono-oxide and concentration of gas found in mine on 4th may'10 was at the same level that was found on 3rd May'10 and level of gas was the same on 5th May'10 also and plastering work in the mine was continuing under rescue cover. In response to questions during cross-examination by Shri Ram Avtar Algamkar, Working President, SEKMC appearing on behalf of workmen, he replied that he met Shri Sudhir Kumar, Area Safety Officer at 8 pm in the night. He denied the suggestion that the air blasts that occurred three times on 5th May'10 were explosions and according to him those were air blasts. In response to questions during cross-examination by Shri Lakshman Chandra, Secretary, Akhil Bhartiya Khadan Mazdoor Sangh appearing on behalf of workmen, he

replied that plaster was done in such a way that there may not be any leak again from that place and he had checked the gas himself and there were no leakages from those places and question of finding how much percent of gas did not arise when there was no leakage. He also stated that he gave 20-25 minutes of safety talk among workers of the mine on 6th May 2010 and everyone was removed to safe place. He also stated in response to questions during cross examination by Md Amin Khan appearing on behalf of INMOSSA that the accident which occurred on 6th May 2010 was on account of an explosion or airblast without inquiry and according to him it was influx of Carbon mono-oxide with hot dust that reached to the surface.

6.50 Shri Sudhir Kumar, Area Safety Officer was examined as MW-9. Affidavit filed by him was marked as Exhibit M-11. Other documents produced in support of his submission included a report on de-sensitizing the goaf by Carbon di-oxide flushing by scientist from CIMFR dated 8th February'10, marked as Exhibit M-12 and; plan of seam-III, marked as Exhibit M-13. In his affidavit he has submitted as follows:

- There were six underground mine in Chirimiri area among which Anjan Hill mine was one of the most mechanized one; this mine had qualified Manager having experience of working underground mines for more than 25 years and separate Safety Officer, Ventilation Officer and Assistant Manager for each district (working areas within the mines) were provided in the mine as required by Coal Mines Regulation 1957.

- Anjan Hill mine was developed long time back and its workings were almost dry; pipelines were laid along the belt conveyor for dust suppression at transfer points; water for spraying was sourced from the sump of seam-I in neighboring Bartunga hill mine and a seven km long pipeline was also laid on the surface for bringing water to the mine; water tank of adequate capacity was built in underground in seam-III.
- While blasting in the roof in panel A1, the workings had got connected with the surface and a pot hole was created and it was realized that depth of hard cover above the panel at that place was only 5 m, whereas the plan showed 40 m and therefore, fresh surface survey was later initiated to ascertain the depth of cover; however, difficult terrain and dense forest cover hindered the progress of work.
- Subsidence management above the panels in Anjan hill mine was rigorous due to poor accessibility and forest land.
- He inspected workings in all the mines of the area under him on regular basis and Anjan hill mine was inspected more often because specialized system of mining namely blasting gallery method was being practiced.
- CIMFR was asked to undertake scientific study of blasting gallery method for advice regarding prevention and control against fire during coal extraction, use of power cord system, assessment of methane content and study of cavability characteristic for arriving at optimum support design.

- Production work was suspended on 5th May 2010 and clear instruction was issued for not allowing any persons below ground other than those required to monitor the environment, recess cutting / dressing of sides and repairing of isolation stopping and work of construction of explosion proof isolation stopping was under progress and he took necessary steps to ensure supply of Carbon di-oxide cylinder and fire sealant.
- Though higher concentration of Carbon mono-oxide gas was detected in the cracks in isolation stopping of Panel A1 on 4th May 2010, atmosphere inside Panel A2 was free from Carbon mono-oxide and other inflammable gas.
- He received message from Shri Dubey that there was main fall in Panel A2 that caused air laden with coal dust gust out of the panel and from Shri Pandey that he had conducted induced blasting in the panel which substantiated the theory of main fall and similar fall of lesser intensity occurred at 7 pm on 5th May 2010.
- Atmosphere in Panel A2 was free from inflammable gas and concentration of Carbon mono-oxide was in the order of 20-30 ppm but analysis of air from fan drift indicated concentration of Carbon mono-oxide as 5541 ppm and therefore all men were withdrawn from underground at 10:30 pm on 5th May 2010 and regular sampling of return airway continued.
- He inspected two old potholes on the surface at 6 am on 6th May 2010 and noticed that one of the potholes was completely filled up but other one

was partly open and there were marks of black soot near the pothole and he reported the same to the Manager.

- While he went away to arrange for additional self contained breathing apparatus, accident occurred at the Anjan Hill mine.
- Rescue and recovery operations started under supervision of officials from DGMS.
- Forest department as well as local villagers usually burnt dry leaves in the forest; charcoal was also being made in the forest by local people stealthily. One such incidence in the forest area above neighboring Bartunga Hill mine had come to the notice of colliery management on 13th May and an FIR was lodged.
- No proposal regarding safety and cleaning of coal and stone dusting that had been sent by the mine management was pending in the safety cell at headquarters.
- His assessment of situation and timely reporting enabled Chief General Manager to suspend all work in the mine since second shift on 5th May 2010 onwards which resulted in saving hundreds of lives. He had advised General Manager (Operation) and other officials who held command at the mine not to deploy any person underground because situation in the mine was deteriorating but General Manager (Operation) ignored his advice and acted in a manner as he desired that proved fatal for him and others.

In response to cross examination by Shri Akhtar Javed Usmani, he said that he held Bachelor of Technology (Mining Engineering) degree from ISM, Dhanbad and he had been working in SECL since 2007 and prior to that he was working in CCL, which is a subsidiary of CIL and he has experience of 23 years in mine and he joined Safety Department in office of the General Manager, Chirimiri Area on 5th June'09 and was appointed as Area Safety Officer since 30th June'09. Application for permission for extraction of coal from Panel-A2 was routed through him. He admitted that he accompanied Executive Director (Safety), Coal India Ltd, during his inspection to the Mine and on that day, Strata Monitoring Cell for monitoring strata at various places to enable fall prediction was inaugurated by the by E.D. Shri R.V.K. Singh, Scientist from CIMFR, had submitted a report on de-sensitizing the goaf by Carbon di-oxide flushing on 8th February'10 after visiting the mine in December'2009. He submitted the copy of the report. He stated that prior to this report, in the month of October, Carbon Di-Oxide flushing in goaf had started. The recording of temperature in old working and sealed off panel A-1 was a routine job and must have been done but he was not able to say more on this and he did not know the exact number of self rescuer made available in Anjan Hill Mine before 3rd May'10. On the question as whether there were sufficient numbers of Self Rescuer, he replied that there were no self rescuers in Anjan Hill Mine but about 30 to 40 Self Contained Self Rescuer were brought from NCPH Colliery on 03/05/10 and since it was first degree gassy mine, such type of accident was not apprehended. It was true

that as per regulation self rescuer is required to be made available in mine and the requisition had already been made at Company Hqrs in Bilaspur for procurement and the requisition for procurement of same was made prior to him joining at Anjan Hill Mine. He admitted that use of filter type self rescuer in the mine had been stopped in the month of January' 07 and he had approved use of new module of SCSR and requisition for new type of SCSR were placed. In reply to question by the Court, he said that CMPDI, which is the planning wing of CIL and consisting of planning experts, had conducted studies before recommending extraction of coal by BG method in the mine and the said method was introduced in SECL for the first time in Anjan Hill Mine but in SCCL, it was introduced in 1990 and still continuing. He pointed out that in BG method cost of production is less, productivity is high, it is profitable and safer also and entire coal can be extracted and no person is exposed to goaf but this method was feasible only when seam thickness is more than 6 m. He pointed out that for every seam there exists one crossing point temperature and one ignition point temperature and symptoms of the first fall finally decides incubation period for a panel. He explained that incubation period means the period within which entire coal of the panel has to be extracted and panel is to be sealed off as otherwise there may be chances of heating. He produced plan of Seam-III. He explained that sub paneling in A-1 had been done to reduce any risk of heating in the goaf area to the maximum extent because seam thickness in A-1 panel was more and rate of advance was not up to the mark and entire coal was to be lifted and

it was not intended that goaf...;. In order to eliminate any chance of heating sub-paneling was made and two pot holes that had occurred in A-1 panel might have become the potential source of breathing of air and therefore sub paneling was done. In reply to question during further cross-examination by Shri Akhtar Javed Usmani, he said that the pot holes were filled but due to hilly terrain and mountainous topography this was a troublesome task. But it was done and the area where the pot hole had occurred fell under reserve forest and there was no route or any path in this jungle to bring any Heavy Earth Moving Machinery and neither the forest authority would allow the movement of HEMM through the jungle. He further pointed out that unless and until ramming, jamming by mechanical method i.e. by using dozers is not done, one cannot rely 100% on the filling of pot holes to the extent as it should be, therefore, sub-paneling was done. He denied the suggestion that claims made by the management had not filled pot holes satisfactorily. He pointed out that wherever, there is availability of top soil or the small stones etc and filling can be done manually also and can be perfect. In reply to questions during cross examination by Shri Lakshman Chandra appearing on behalf of workmen he said that he inspected Anjan Hill Mine on 14th April 2010, 20th April 2010 and 25th April 2010. On 1st May 2010 he was asked to hold a meeting of all mining supervisory personnel of the Area on safety and meeting was attended by CGM, Chirimiri, GM (O), all Staff Officers, all Sub Area Managers, Colliery Managers and Safety Officers and the meeting went on

for 5 to 6 hours, but not a single person present in the meeting raised any apprehension about such incident likely to happen. He further pointed out that Panel A-1 was sealed off on 15th January 2010. What came out from preliminary inquiry of the incident that occurred in Anjan Hill Mine on 6th May'10 indicated there was a clear case of fire. There was a seat of fire/heating in the mine which is still to be located. He was against sending any person in the mine on morning of 6th May'10. On 5th May'10 at about 11:00 pm Shri S. S. Malhi talked to him over phone then he suggested that deployment in the mine must be stopped and he informed by Shri Malhi that Colliery Manager Shri Dash and Shri T.K. Dubey, Safety Officer were directed to prohibit entry in the mine and ensure the compliance in toto and next day at about 7:00 am he visited the mine and at that time GM (O) Late Goswami was present and he strongly argued with GM (O) to stop the entry inside the mine till CGM comes and at about 9.00 am he was called by Shri S.S. Malhi, CGM for going to Behraband to collect self contained self rescuer. He further stated that there was full fledged control room where there was a register and every activity in case of emergency including the instructions must have been recorded. He also pointed that there was no pressure from anybody including CGM to proceed with the production at the cost of safety. No one else cross-examined him.

6.51 Shri Jayant Narayan Dash, Manager of Anjan Hill Mine was examined as MW-8. In his affidavit, marked as Exhibit M-7, he has submitted as follows:

- Gas analysis report received from Manendragarh rescue station on 3rd May 2010 indicated presence of Carbon mono-oxide behind stopping in sealed off Panel A1 and he intimated higher official; General Manager (Operation) instructed him to flush Carbon di-oxide in to the panel through sampling pipe and Sub-area manager instructed him to check the gases around stopping using MiniWarn-7 pack III apparatus and thereafter he went underground and found presence of Carbon mono-oxide in higher than permissible concentration in and round stoppings of panel A1, 8 ppm Carbon mono-oxide in Panel A2 and 16 ppm in the return airway of panel A2.
- All senior officers reached at the mine at about 7:00 pm, control room was setup at the surface and fresh air base was established near Panel A1 and it was decided to plaster the isolation stopping and sides with cement mortar immediately and to erect row of explosion proof stopping in front of existing ones; all officers went underground and repairing work commenced and continued through night shift under rescue cover but normal production work in Panel A2 remained suspended since 9:30 pm on 3rd May till first shift on 4th May; monitoring of gas and repairing of stopping as well as preparation for erecting new stopping continued under rescue cover; normal working in Panel A2 was resumed in the second shift on 4th May 2010 on the instruction of senior officers .
- Inspected the site of repairing in underground alongwith CGM and SAM in the first shift on 5th May; at about 4:30 pm on 5th May, the Safety Officer

informed that a blast of air laden with coal dust was seen coming out of the mine indicating occurrence of main fall in Panel A2; he returned back to the mine to find all men were safe; informed CGM, GM(O) and Area Safety Officer and after they arrived the situation was analysed to infer that the blast was an outcome of main fall in the goaf; work in the mine continued.

- At about 7:15 pm on 5th May the report of analysis of mine air sample from the main return was received from rescue Station, Manendragarh showing presence of 5521 ppm Carbon mono-oxide and matter was reported to SAM, ASO and GM(O) and after some time on receipt of information about occurrence of similar blast at 7:30 pm he went underground to find everything normal; matter was reported to SAM, GM(O) and CGM.
- After receipt of information about occurrence of similar blast of lesser intensity at 10:00 pm on 5th May 2010, decision was taken to withdraw all men from underground and thereafter, a team under Shri B. K. Pandey, Assistant Manager was sent for surface inspection around the incrop region (the area where coal seam is exposed on surface) of Seam-III; Shri Pandey called him over telephone at about 3:30 am saying that they have lost their way and would wait till the day break; matter was reported to CGM who was present at the mine and he advised to wait and watch till inspection was completed and asked him to go home for rest.

- He reached mine at 9:30 am on 6th May; no person was allowed to go down the mine; General Manager (Operation) was standing near the mine mouth; while GM (O) was explaining him and others how to control fire, at about 11:20 am on 6th May, hot air laden with coal dust gushed out of the mine mouth and he along with others sustained injuries; he was rushed to regional Hospital and then referred to Apollo Hospital in Bilaspur.
- Anjan Hill Mine was degree-I gassy and sufficient number of qualified and experienced Mining engineers, supervisors & employees were deployed in the mine and all the provisions in the statute for gas sampling had been complied with; regular cleaning of belt roadway, haulage roadway (road used for (material transport), travelling roadway, fan drift and main return airway for coal dust and fallen coal were undertaken in the mine as a regular practice; goaf of Panel A1 and A2 was flushed with Carbon dioxide for inertisation of the atmosphere; fire sealant was applied and incombustible dust was spread over fallen coal in the goaf for inertisation; 7 km long pipeline was laid to bring water to the mine for spraying; mine environment was being monitored in the mine in each shift regularly using hand held gas detecting instruments; and meetings of safety committee were being held regularly and suggestions given in the meetings were implemented.
- Seam-III was developed 70 years back without forming panels but the present management planned to construct isolation stopping in three

phases for sectionalisation, 13 stoppings were completed and 7 were under construction and CIMFR had been entrusted to undertake various studies during extraction of coal by BG method.

In reply to questions during cross-examination by Shri Bajrangi Shahi, he said that he has been working in SECL in mining since last 27 years; and as Colliery Manager in Anjan Hill Mine since 20th February 2009 and he held Diploma in Mining Engineering and First Class Colliery Manager's Certificate. He further stated that he had not applied for permission for Blasting Gallery but he is aware that flushing with Nitrogen / Carbon di Oxide was necessary and this condition was complied with by flushing the goaf with Carbon di-Oxide; quantity of dust in the mine was not so much and it was their regular practice to spray the mine with water and remove the dust by collecting, making small heaps, loading on the trolleys and sending on surface. He further stated that Carbon mono-oxide Gas was detected in the goaf of sealed off Panel A1 and no other gas was detected anywhere; that the concentration of Carbon mono Oxide in general body of air was low because goaf had leaked and he had inspected the place from where gas was leaking and informed Shri K. C. Pal, Agent, Late Goswami, DGM, and Shri Malhi, CGM but he did not remember whether he informed Shri Sudhir Kumar, Area Safety Officer. He stated that he was standing near the mine mouth with late Goswami and Shri P. K. Mitra at the time of accident about 11:30 am and late Goswami, GM (Operation) was senior to him; although he was manager, he had to obey the orders of late Goswami who was on the spot;

that late Goswami was more than 57 years old and had about 35 years experience of working in mine and he was at the rank below Shri Malhi, CGM; at the time of accident, Shri Malhi was little more than 100 feet away from mine mouth moving towards the hill, Shri K. C. Pal, Agent, Shri P. K. Mitra, Rescue Superintendent and few workers were present within the campus of the mine; no one was working on the surface; workers were participating in the demonstration on how to wear self Rescuer; that he was not in the mine campus when rescue teams were sent underground on 6th May 2010 and did not know who had sent them; that he also sustained injuries in the accident and remained in Apollo Hospital for one month and thereafter, he took rest at home for one and a half months. In reply to questions during cross examination by Shri Lakshman Chandra, Secretary, Akhil Bhartiya Khadan Mazdoor Sangh, he stated that Carbon mono Oxide was not leaking through pothole which was sealed off from top as well as from underground and denied that Oxygen was going inside the mine; according to him, the accident that occurred was not an explosion and it was an airblast. He explained that during the main fall air gets displaced and moves out with velocity raising dust and hot coal dust could inflict burn injury to people but he could not say how hot coal dust came out with air blast. He further explained that coal mine has dust but explosion can take place only when dust quantity is miniscule. He asserted that the work related to suppression and removal of dust from the mine was being done regularly and that Carbon mono Oxide was detected in the mine that too in

sealed off Panel A1 for the first time on 3rd May'10. In response to question by the Court as to what is the difference between Blasting Gallery method and Bord & Pillar method, he explained that Bord means gallery and Pillar mean pillar and it is a conventional method where pillars are formed by driving galleries which yield only 20% coal in the process leaving 80% to be extracted later by conventional method or Blasting Gallery (BG) method but BG method is used where thickness of coal is more than 6 m. He explained further that BG method is under operation in our country and only machines are used for coal extraction resulting in lesser requirement of manpower for the same level of production in comparison to conventional method and cost of production in BG method is also lower than conventional method.

6.52 Shri Keshaw Chandra Paul, the agent of the mine at the time of accident was examined as MW-9. Affidavit and other documents filed by him such as copy of his letter to DGMS informing about the occurrence of noxious gas in the mine, copy of letter of compliance sent to Dy Director Mines Safety and letter dispatch register were marked as Exhibit M-8, M-9, M-10 and M-15 respectively. In his affidavit, he has submitted as follows:

- There were two underground mines under his control and all the jobs in these mines were performed as per the provisions on the Mines Act and rules / regulations made there under and his responsibilities included ensuring necessary requirements for safe working of the mine as per statute; he received intimation on 3rd May 2010 that result of analysis of mine air showed presence of Carbon mono-oxide and other gases in

sealed off Panel A1 in Anjan Hill Mine which was confirmed by the Colliery manager who reported after inspection that there were leakages through cracks in isolation stopping of Panel A1.

- After informing Chief General Manager and convening meeting of senior officers he went underground for inspection at 9:00 pm and found Carbon mono-oxide and other noxious gases were leaking through the sides of pillars adjacent to isolation stopping of Panel A1 and therefore decision was taken to plaster the stopping & its sides and to erect another row of explosion proof isolation stopping in front of existing ones simultaneously; work in Panel A2 was suspended since 9:30 pm on 3rd May and Rescue room in-charge was asked to collect rescue teams, inform rescue station at Manendragarh and begin protective work under rescue cover and arrangements were made to collect and send necessary material underground for the protective work; emergency was declared, control room started functioning and rescue team entered the mine in the night shift of 3rd May to establish fresh air base in the intake roadway of Panel A1 and repairing of leaking stopping continued on 4th May under rescue cover; that rescue teams continuously monitored the presence of gases in return airway of Panel A2 and working in Panel A2 was found free from noxious gases; persons were allowed to work in Panel A2 since second shift on 4th may 2010.
- DGMS officials were informed over telephone about occurrence of noxious gas in sealed off Panel A1 at 10:30 am on 4th May 2010 and apprised of

actions taken thereafter; repairing of isolation stopping of Panel A1 continued under rescue cover on 5th May 2011 and DGMS officials were kept updated with information over telephone about status of Carbon mono-oxide and action taken.

- While rescue team monitored the environment continuously, he along with Chief General Manager inspected the site of repairing & construction of new stopping in underground; after detecting fresh leakages, it was decided to inject cement in to coal pillars with the help of cement grouting machines.
- Induced blasting (for forcing the roof to cave) was carried out in Panel A2 at 2:30 pm and roof fall occurred in the goaf of Panel A2 at about 4:30 pm on 5th May 2010 and working site in Panel A2 was found free from noxious gasses during inspection by Shri B. K. Pandey, Assistant Manager and S. V. R. Raju, rescue trained person but similar incidence of roof fall of lesser intensity occurred at 7:30 pm on 5th May; analysis report of air samples collected from main return airway received at 7:30 pm on 5th May 2010 indicated presence of 5521 ppm Carbon mono-oxide and presence of Hydrogen and therefore, decision was taken to withdraw all men from underground despite the rescue team present near Panel A1 reported presence of only 5 to 10 ppm Carbon mono-oxide which indicated that source of heating in the mine was at some other place, may be between last ventilation connection of Panel A2 and main return airway.

- A team comprising of six persons went to locate potholes / cracks / subsidence on the surface above Seam-III at 2:00 am on 6th May 2010 and reported at 6:00 am that there were two old potholes, one fully filled and other partly without any signs of fire or heating.
- After inspecting the mine in the morning; a rescue team with Rescue Superintendent returned to surface at 9:00 am on 6th May 2010 and reported that there were no signs of heating in old workings; workers were sent to fill up the pothole on the surface and while he was present near the mine in the morning, survey officer informed that the team which had gone to fill up potholes saw smoke coming out from a new site 70-80 m North East of old potholes; matter was reported to Chief General Manager and DGMS officials and he along with Chief General Manager moved for inspecting the surface at about 10:45 am on 6th May 2010. He further stated that all of a sudden at about 11:30 am on 6th May 2010 a violent gust of air laden with lot of dust came out of the mine mouth inflicting injuries to persons engaged in loading material near the mine mouth and to him and Chief General Manager as they got trapped in the cloud of coal dust; 8 out of 39 injured persons succumbed to their injuries and six persons who were in the mine during the blast could not be saved and their bodies were recovered after hectic search during the rescue operation carried out between 6th May and 11th May 2010; mine was sealed off from surface on 24th May 2010.

- Compensation, employment and other admissible facilities have been provided to all those who lost their lives and best treatment were provided to injured persons.
- Anjan Hill Mine was Degree I gassy as percentage of methane in Seam-III never exceeded the limit during last thirty years of its operation; provisions for gas sampling as laid down under statute were being complied with in the mine; scientific report of CIMFR indicated negligible percentage of methane in boreholes; and Methane was never detected in mine air sampled and analysed regularly as per statute.
- Sufficient number of trained and experience mining engineers, surveyors and supervisors who were well versed in dealing with problem of fire in the mine were deployed in the mine; fallen coal had been cleaned from old working areas in Seam-III; cleaning of belt conveyors from coal dust was being carried out regularly as a practice and contraventions including advice / adverse remarks of dust accumulation in roadways and working area pointed out by safety Committee, Area Safety Board, Officials from the Company and DGMS during their periodic inspections were being implemented at the earliest possible occasion; arrangement for flushing Carbon di-oxide in sealed off Panel A1 and spreading of fire sealant over fallen coal in the goaf were made and incombustible dust was also being spread in the mine.

- Local villagers often burnt dry leaves in forest area for making charcoal or other purposes and one such incidence was noticed near coal bunker on surface and FIR was lodged.
- Seam-III was developed about 70 years back without forming panels and steps were taken to sectionalize these workings by constructing isolation stopping in three phases; out of twenty stoppings including 5 preparatory stoppings were required to be completed in first phase, 13 stoppings were completed and 7 were under construction and proposals of work for second and third phase were also under process; that old working area was being inspected regularly; arrangement for water spraying in the mine was provided by constructing water tanks of adequate size and laying 7 km long pipe line and spraying of water and incombustible dust in the mine was being done regularly.
- He said that, as agent of the mine, he has provided all financial and other provisions for compliance and carrying out all operation as laid down under the statute and this accident occurring in Degree-I gassy mine, a rare phenomenon worldwide in such type of mines; the accident surprised everyone in the mining community and therefore, the management, on 14th May 2010, appointed a committee comprising of scientists / researchers / academicians of international repute for finding out the cause of the problem; that the inquiry committee in its interim report had opined that exact nature and cause of the accident could not be known.

He denied the suggestion made by Shri Akhtar Jawed Usmani that he had applied for permission for extraction of coal by BG method at Panel A1 and he further replied that emergency was declared in the mine by Shri S.S. Malhi, CGM at 10:30 am on 3rd May'10 and he informed Shri S.D. Chiddarwar, DDMS and Shri Ram Abhilash, DDMS over the telephone about presence of noxious gas behind sealed off panel A-1 and also written a letter addressed to Chief Inspector of Mines, Dhanbad and sent it to Regional Inspector of Mines, Seepat Road, Bilaspur. In reply to question by the Court, Shri Paul said that he had the copy of the letter addressed to Chief Inspector of Mines, Regional Inspector of Mines and District Collector, signed on 4th May'10, which was dispatched under Certificate of Posting on 5th May'10. He produced the same. He also produced the dispatch register through which the letter was dispatched. He added further that depending upon the volume of work management sometimes appoints contractual labour for coal dust removal and sometimes it is done by departmental labour. He also asserted in answer to cross-examination that indent for nitrogen plant was placed after he took over but he could not say exact date & time of placing the indent. He further stated that a plant from sister company MCL was procured but it did not function and management were trying to get it repaired. He pointed out that the indent was placed before CGM for procuring the nitrogen plant and same was sent to concerned department which procures equipments but was not aware of the detail process of approval of indent at Hqrs, Bilaspur. He further stated that the report dated

16/10/2009 sent by him to DDMS showed that Carbon di-oxide was being flushed from 12th October 2009. He stated that the mine was working for last about 30 years and he divided the mine in to three stages for the purpose of sectionalisation after he took charge in which first stage has already commenced by constructing 13 out of 20 and remaining 7 were under construction; tender has been called for the second stage. He added that there is no system of tele-monitoring of gases in the mine. In reply to questions during cross-examination by Shri Lakshman Chandra, he said that he was aware of the existence of pot holes on the surface of the mine prior to 5th May 2010 and there were no incombustible dust barriers in the mine gallery because these were required only in second degree and third degree gassy mines whereas the mine in question was first degree gassy. In reply to question by Court he said that at 5:30 am on 6th May'10 he was in the mine along with Rescue Superintendent Shri P.K. Mitra and at that time late Goswami informed him to send two rescue teams to the underground mine and told Shri P.K. Mitra to constitute two rescue teams. He said that one team was provided with Self Contained Breathing Apparatus and the other team was provided with Self Contained Self Rescuers and all these arrangements were done by Shri P.K Mitra. He further pointed out that since one set of Self Contained Breathing Apparatus was at underground Fresh Air Base, the other team was not provided with Self Contained Breathing Apparatus and he was not aware as to who had sent two persons to collect the samples from the mine. He stated that GM (O) gave him instruction to

constitute the rescue teams over telephone. GM (O) came to the spot at about 9:00 am on 6th May'10 whereas he had come to the mine on 5th night at about 10:00 pm and continued in the mines till the incident took place. He added that it was the duty of the Ventilation Officer to send persons for collecting samples but he could not say definitely whether Ventilation Officer or somebody else had sent the persons to collect the samples. He denied sending those persons to collect the samples and he did not know that two persons had gone to collect the samples till the occurrence of accident and he could not get it verified as to who had sent those two persons for collecting samples because he was hospitalized after the accident. He was further informed that persons who were sent to collect samples were the one who were regularly deputed for collecting samples and the said persons were carrying SCSR along with them.

6.53 Shri Surinderjot Singh Malhi, the then Chief General Manager of Chirimiri area was deemed agent under the Mines Act, 1952. He was examined as MW-11. In his affidavit, marked as Exhibit M-14, he has submitted as follows:

- Anjan Hill Mine was under the administrative control of Chirimiri area where he was assisted by General Manager (Operation) and Area safety officer. In addition to the said persons he was also assisted by an agent and manager who had an experience of working underground mine for a period more than 30 and 25 years respectively. He also pointed out that separate Safety Officer, Ventilation Officer and Assistant Managers, as

required under Coal Mines Regulations, 1957, were appointed in the mine which was developed in honeycomb structure in the past without leaving barrier pillar. He submitted further that after he took over the charge of the Area, he took action for sectionalizing the workings by awarding contract for construction of 20 isolation stoppings in March 2009 to isolate old working in Seam-III and the work was under progress.

- Anjan Hill Mine workings were dry and fallen coal from old working area was cleaned with the help of side discharge loaders and a 7 km long pipeline was laid for bringing water in the mine and permanent water tank of adequate capacity was built underground for spraying.
- CIMFR (Central Institute of Mining and fuel Research) was awarded work of initiating scientific study of Blasting Gallery method, scientific study for advice for prevention & control of fire during extraction of Blasting Gallery panel A1 in Seam-III, studies in to safety & performance parameters of Powering Power Chord System during its use in Blasting Gallery Method, assessment of methane content of Seam-III and study of cavability characteristics for optimum size & design of support system for Blasting Gallery Method.
- He received information from Shri K. C. Pal at 6:30 pm on 3rd May 2010 that there was presence of Carbon mono-oxide in sealed off Panel A1 and therefore he convened meeting of senior officers to discuss the matter and entrusting responsibilities among officers for dealing with the situation in which late S. K. Goswami, General Manager (Operation) was

asked to coordinate with different departments, liaison with rescue teams and monitoring of all activities, Staff Officer (Civil) was asked to arrange men and material for taking up repairing and strengthening isolation stopping of Panel A1, Area Safety Officer was asked to inspect the site and arrange for gas monitoring equipments from other collieries, Staff Officer (P&P) was asked to establish control room, Sub Area Manager of Chirimiri underground Sub Area was asked to monitor all underground activities related to repairing and strengthening of isolation stopping in Panel A1 and rescue room in-charge Shri Dhangar was asked to provide rescue cover to persons engaged in protective work.

- Inspection of isolation stopping of Panel A1 on 3rd May 2010 revealed leakages through fissures in pillars and therefore, work of dressing down the loose sides, cement plastering and recess cutting for new isolation stopping were initiated and production activities in Panel A2 were suspended; no person other than those required for environmental monitoring and protective work were deployed and while returning from the mine at 2 am on 4th May, Sub Area Manager was asked to intimate DGMS about the incidence.
- Protective work continued on 4th May 2010 and production related activities in Seam-III were resumed since second shift on 4th May and continued on 5th May 2010; induced blasting was carried out at 2:30 pm on 5th May and he left the working area at 2:45 pm on 5th May.

- On receipt of information about occurrences of air blasts at 4:30 pm, 7:30 pm & 10:00 pm in Panel A2 and rising concentration of Carbon mono-oxide in its return airway, all persons were withdrawn from the mine and the fan operator was asked to leave the fan house and remain near the sub-station; one rescue team was sent to check status of isolation stopping in Seam 0, return of Seam-I and Local seam and look for signs of heating near fan shaft pillars; the rescue team found more than 2000 ppm Carbon mono-oxide in the return of Seam-III which led to apprehension that fire was somewhere in old disused workings, between last ventilation connection of Panel A2 and fan drift.
- A team led by Shri B. K. Pandey went to locate potholes / cracks on the surface above Seam-III at 2:00 am on 6th May 2010 and reported at 6:00 am that there were two old potholes, one fully filled and other partly without any signs of fire or heating.
- In the morning at around 8:15 am on 6th May 2010, he asked General Manager (Operation) to go to control room and supervise activities and the Sub Area Manager informed him at 7:56 am on 6th May 2010 that General Manager (Operation) was advising him to commence production activities in Seam-I & Local Seam and sought permission to do so but he told him not to deploy any person till spontaneous heating was controlled and rescue team also should not be sent underground till he permitted but while he was in his office arranging for more Self Contained Self Rescuers from other areas he received information from the mine that cap

lamps are being issued to workmen for deploying them in Seam-I and Local Seam; he rushed to the mine and reached at 10:40 am and asked sub Area Manager not to send any one in the mine.

- General Manager (Operation) informed that concentration of Carbon mono-oxide in main return of the mine was more than 2000 ppm and situation in Panel A2 was conducive to take up protective work but in the mean time information about sighting of flame at the surface near newly formed pothole reached and he instructed GM(O) to suspend all underground activities and hold demonstration among departmental and contractual workers of using new type of Self Contained Self Rescuers in front of manager's office and did not agree with the GM (O)'s suggestion to commence underground activities.
- While he was about to leave the mine along with sub Area Manager, a blast of air with dust gushed out of the mine mouth inflicting injuries to persons standing nearby including him and Sub area Manager but inspite of injuries he assisted in sending injured persons to hospital and then got himself admitted in hospital at 1:30 pm; timely action taken to stop normal deployment since second shift on 5th May 2010 prevented the accident turning in to disaster.
- Local villagers often burnt dry leaves in forest area for making charcoal or other purposes and one such incidence came to his noticed near coal bunker on surface on 13th May 2010 for which FIR was lodged.

- No proposal sent by the management of Anjan Hill Mine regarding cleaning of fallen coal and stone dusting was pending at his level.

In response to questions during cross-examination by Shri Akhtar Javed Usmani he said that he sent proposal for constructing 102 isolation stopping after joining Chirimiri Area and the fund was released. He agreed that the work that stopped on 3rd May was resumed on 4th May after being satisfied that the percentage of Carbon mono-oxide was below 20 ppm but the work was resumed for loading already blasted coal which was required to be cleared to avoid spontaneous heating. He also agreed that the then CMD, SECL was informed at 6:30 am on 4th May and in return CMD told him to take all necessary precautions and when he told CMD that Carbon mono-oxide in the mine was below 20 PPM in general body of air, CMD asked him to continue repair work and at no time CMD insisted to go on with. He pointed out that the then CGM (Safety & Rescue) was informed but he was handing over charge to Shri A.K. Singh and Sri A.K. Singh called him later at 10:50 am. He further said that GM (O) late Goswami was expected to attend GM coordination meeting alongwith him on 4th May 2010 at Bilaspur but due to prevailing situation in the mine they did not attend the meeting and sent Shri Holkar who was 3rd from top in seniority to attend the meeting. In reference to the question that how two rescue teams were sent underground on 6th morning and how two person went underground for collecting samples, he narrated the sequence of events saying that on receipt of information about presence of 5521 ppm Carbon mono-oxide in

main return air way of the mine during second shift on 5th May 2010 he had immediately convened meeting of all senior officers of Area and Anjan Hill Mine and discussed the problem in detail and late Goswami was present in the meeting where it was decided to withdraw the person from the mine and stop further deployment and all normal activities came to stand still and thereafter, he & others tried to know the causes for the presence of Carbon mono-oxide at 5521 ppm; it was further decided to check the surface near upcast shaft i.e. from where air comes out of the mine and they sent the team to check the surface, who reported that there was no visible fire. He said that since the concentration of Carbon mono-oxide was less than 20 ppm in return of running district of seam, he suspected that isolation stopping of exhausted zero seam must be leaking and between 1:00 and 1:30 am on 6th May'10 he sent two persons namely Shri K. S. Ali and another person, whose name he did not recollect but both were rescue trained persons, to check zero seam isolation stopping and they came back & reported that there was no Carbon mono-oxide in return air of zero seam, seam-I and local seam but they found more than 2000 ppm Carbon mono-oxide in return of seam-III; they returned back in 20-25 minutes. He further said that they tried to locate the source from where the higher gas percentage of Carbon mono-oxide was coming and after discussing with others it was inferred that it must be from old working between return of A-2 panel and main return of seam-III. He pointed out that before he left the mine at 3:15 am he had categorically informed late Goswami and Shri Paul

not to send anybody to underground mine unless they have a complete search of the surface above the mine and they had agreed to the instruction; after the incident, he was informed by Shri K.C. Paul the then Agent and Shri Mitra, Rescue Superintendent that late Goswami had sent two rescue teams at about 5:30 am on 6th May 2010; after getting the report that there was no fire in the old pot hole Late Goswami could have taken the decision to send rescue team to underground; Shri Goswami was very knowledgeable, experienced and a trained rescue person therefore everybody would give weight to his suggestions. In reply to questions during cross-examination by Shri Bajrangi Shahi, he said that he could not definitely say whether the incident in question was explosion or fire or hot air laden with dust and this can be found out only by further investigation. In reply to questions during cross-examination by Shri Lakshman Chandra, he said that nobody had asked him to start the mine including CMD.

6.54 Shri D. K. Mallick, Director Mines Safety who conducted inquiry under Section 23 of the Mines Act 1952 was examined as DGMSW-1. In his affidavit, marked as Exhibit DGMS-1, he has enclosed the interim report of the inquiry conducted by him between 4.6.2010 to 11.6.2010 and 21.9.2010 to 24.9.2010. Records, registers, plans & sections maintained at the mine were seized by him and statements of 46 persons were recorded during the inquiry. He has stated that statutory inquiry could not be concluded because entries to the mine were sealed off and accident site plan was prepared on the basis of observations in Rescue Captain's report and according to him

the accident could have been averted had - (i) the potholes developed over old disused workings on north side and over the extracted panel A1 of seam-III been effectively kept filled up to prevent passage of air through these potholes, cracks and fissures (ii) the old workings on the north side of Seam-III been kept adequately ventilated (iii) the fallen coal been removed from old and disused workings on the north side of Seam-III or the area been kept effectively sealed off (iv) every part of the mine which was not naturally wet throughout or which was not isolated by explosion proof isolation stoppings been treated with fine incombustible dust (v) persons who were deployed inside the mine been withdrawn knowing dangerous condition prevailed inside the mine i.e. presence of Carbon mono-oxide more than 2000 ppm (vi) the persons not been allowed to stand in and around the mouth of Adit B knowing dangerous condition prevailed inside the mine and the safety of persons employed therein not been negligently omitted; and (vii) the persons not been allowed to enter the mine which was unsafe due to presence of Carbon mono-oxide more than 2000 ppm.

In reply to questions during cross-examination by Shri U. W. Datey, he said that he would submit the final report as and when DGMS required him to do so and he could only submit the interim report because there was no occasion to inspect the mine and the mine has been sealed and unless he inspected the mine after it was opened he would not be in position to submit the final report. He asserted that in the report given by him there was explosion in the mine is correct and he stood by it. He explained the

characteristics of coal dust explosion as being very violent in nature, presence of noxious gases such as Carbon mono-oxide & Carbon di-oxide, ejection of coal dust, ejection of flame, damages caused in the mines such as blown through stoppings, dislodging supports etc but such characteristics would not be present in the case of air blast. He said that, in his view, the temperature of coal dust explosion would be above 1000 degree Centigrade and agreed that the book written by Professor Ramalu mentioned the temperature in coal dust explosion could vary from 1000 to 2500 degree Centigrade but normally the temperature vary from 800 to 1000 degree Centigrade. He also agreed that the author of the book has stated that maximum flame temperature could go up to 2500 degree Centigrade and there would be formation of coke crust globules and soot deposit. He agreed that in the interim report submitted he has not referred to presence of coke dust or globules deposited in the mine because he inspected the mine on 11th May and sealing was going on therefore he took only 10 sample from Adit A and Adit B in presence of Shri S. D. Chiddarwar, DDMS and Shri Sahay, Scientist, CIMFR. He further said that these samples were analysed at CIMFR, Dhanbad and found the percentage of ash in the sample was more than the normal value and also fixed carbon percentage in the sample had reduced. He denied that the samples taken by him was not true representative of the condition of the mine on the date of the accident because many activities were being carried on from 6th to 11th May 2011 including the rescue operation because he had taken care in selecting the

place of collecting samples so that analysis report could become truly representative of the condition of the mine as on the date of the accident. He admitted that the coal contains 15% ash but the samples on analysis showed 60% ash and presence of 60% ash indicated contamination by non-coal material and he did not state anything about volatile matter in his report. He further admitted that analysing the report with regard to presence of volatile matter in the sample was required and this aspect of the matter was missed by him but denied that he has deliberately collected the dust sample with a view to give distorted situation of the fact that prevalent on the day of accident. He further admitted that coal contains more than 7% moisture but the moisture in the sample of coal dust varied from 1.3 to 4.3% because of heat and temperature and the sample was taken after about 6 days of incidence therefore it is possible that moisture has come down to large extent and it may be true that he did not collect the right sample from the right place of the incidence. He said that on the date of his visit, rescue operation was going on and rescue team was in the underground and the last body was recovered only on 12th May. He pointed out that, in his report, he has stated about freshly filled up pot holes because an impression was created that the referred pot holes had been filled up two days prior to his inspection. According to him the pot holes referred in the report were located on the northern side of the mine and there were two other old pot holes in addition to the referred one but he did not inspected two old pot holes and only inspected the third pot holes which

were freshly developed and he was not able to tell the distance between the old two pot holes and the pothole referred in the report because the distance was not measured. He denied that two old potholes were visible from the place he inspected the pothole. He admitted that he had not given any finding with regard to pot holes located over Panel A1 and A2 because he concentrated on freshly created potholes. He denied that merely because findings about old potholes were not given, he had in mind that the incident has taken place on account of flame coming out of potholes located at northern side. He said that his report was based on recording of statements from evidence and other registers and records and analysis report. According to him distillation is sort of a chemical process by which highly inflammable hydrocarbons such as methane, ethane, propane etc are released by burning coal and hydrocarbons released during distillation gathers in same place in absence of air and if there is air it forms explosive mixture. He explained that distillation takes place even in the open air. He said that he did not collect any coal sample to test it for distillation and find out how much inflammable gas came out of it but denied that he deliberately did not collect coal to test for distillation. He said further that to his knowledge there was no major incidence that had taken place at Chirimiri Area taking away the lives of the people but he admitted that he was aware of the earlier incident that had taken place and knew that its report was in his office but he did not refer that report since he had seen that report long back and did not remember its content. According to him,

the management was aware of the presence of Carbon mono-oxide inside the sealed Panel A1 on 3rd May which was a normal phenomenon in sealed off panel and Carbon mono-oxide will occur because of the oxidation of the left out coal and it meant there was no indication of fire anywhere in the mine on 3rd May and it was not possible for anyone even to visualize there would be any explosion on account of fire in the mine. He admitted that first fire was seen on the morning of 6th May at about 10:15 am through the freshly developed pot holes located on the northern side of the mine which is referred in the report and nobody noted the colour of the flame because normal flame was coming out from the mine through the pothole. He further stated that since he did not see the flame, he cannot comment on the colour of the flame that came out and the officer who saw the flame did not mentioned it. He denied that not noticing the colour of the flame was deliberate and gases burnt fully. He denied the suggestion if there was distillation gases would be burning. He explained that it was permissible for the people to go inside the mine without self contained breathing apparatus if atmosphere was favourable but when atmosphere is not favourable it is essential to wear SCSR and stated that since Panel A1 and A2 were on the intake side of the fresh air there was no chance of air fouling (Mixed) with noxious gases creating scope for explosion and therefore, it was normal for the workers to get inside the mine without SCSR. He further stated that the Panel A1 was on the intake side and Carbon mono-oxide was within the sealed off Panel A1 therefore people went near Panel A1 and A2 only

without wearing SCSR which was permissible and allowable and it is normal practice and procedure that people enter the area with SCSR for the purpose of assessing the area even when the area is charged with noxious gases. He further said that in the situation prevalent in the mine in the morning of 6th May 2010, it was expected that everyone would go inside the mine after wearing SCSR and since the presence of Carbon mono-oxide on that morning was more than 5000 ppm it was not normal to send people without SCSR. In reply to questions during cross-examination by Shri Javed Akhtar Usmani, Shri Mallick said that DGMS issued circulars from time to time on the basis of findings of accidents which are advisory in nature but they are required to be followed in interest of safety and health of mine workers and concerned region / zone officers see the compliance of circulars. He further said that the condition imposed while granting permission to operate the mine is mandatory and management is required to follow but he was unable to say whether the Permission granted to operate the mine can be treated as order under 18(5) of the Mines Act, 1952. He admitted that further investigation is necessary to give final report because he gave an interim report. He said that even in Degree I gassy mine everyone is required to carry self rescuer when they enter the underground mine and it is only on 5th May more than 2000 ppm Carbon mono-oxide was found in return of seam-III and 5000 ppm was found in main return. He admitted that the coke crust may not get deposited due to violent nature of the explosion and after coal dust explosion volatile matter in the coal is reduced, ash

percentage increased and moisture percentage also reduced. He said that he was appointed as Enquiry officer by the DGMS on 27th May 2010 and the samples were collected long before 27th May and the samples were collected under the supervision of DDMS, Bilaspur Region and Scientist CIMFR. He further stated DDMS Bilaspur Region is in-charge of Anjan Hill Mine. He further stated that since he was not the authority to grant permission for extraction of coal, he was not in a position to say whether the granting authority was satisfied on issues regarding completion of isolation stopping before granting the permission; since he was not regular Inspector of Mines, he was not able to say whether conditions imposed in the permission were complied before starting of the extraction and he was not aware that inauguration of BG panel have taken place on 22nd November 2008; sectionalisation was not done in the mine; he was not aware that lamp issuer was ever posted. He said that he had recorded the statement of CGM Chirimiri Area. He also admitted that he was not in position to say what error in preparation of plan was allowable and prosecution was launched for contraventions of Section 71 of the Mines Act, 1952 because contraventions under other sections were not observed. He explained that the purpose behind constituting the committee was to expedite rescue work and he did not know whether committee was constituted either on 5th or thereafter and whether there was register for temperature recording or not or such register was seized or not. He agreed that technology has advance since 1966 to this date and it was not possible to say whether the incident in question has

taken place due to fired damp explosion as suggested; the accident might have taken place on account of explosion of methane and other hydrocarbon like methane ethane propane and subsequently it becomes coal dust explosion. He pointed out that after submission of final report if DGMS finds there has been violation of laws the DGMS will taken decision to launch fresh prosecution against the concerned. He explained that the General Inspection of the mines is based on the priorities; he did not know whether Circular No. 4 of 2005 has been observed by the management or not and if it has not been observed then what steps were taken by DGMS. In response to questions during cross-examination by Shri R. S. Gupta representing Officers association, Shri Mallick replied that his report pertains only to cause and circumstances leading to the accident. He admitted that the person who went beyond the Fresh Air Base were required to be rescue trained persons and he has stated in his report that seat of fire and the path of travel of explosion waves could only be ascertained by inspecting the underground workings and it can only be done after reopening of the mine. He denied that there is any circular or provision in the legislation or guidance issued as to beyond what particular limit of Carbon mono-oxide people should not be allowed to work or enter in the mine but there is provision notifying that if condition of mine was dangerous, the management must withdraw all the persons from the mine however dangerous conditions have not been specified in circulars or guidelines or legislation and it varied from mine to mine depending upon situation. He denied having knowledge that body of

two persons who were stated to be not rescue trained was found within the FAB as suggested.

6.55 Shri Rahul Guha, Deputy Director General on Mines Safety, Udaipur was examined as DGMSW-2. He had not filed affidavit. On the request of representatives of trade unions, he was summoned by the court for examination. In the course of chief examination he stated as follows:

- He has been working as DDG, Northern Western Zone, Udaipur since July 2010 and Bilaspur region falls under jurisdiction of Western Zone Nagpur and he was in-charge of Chirimiri Area and mines falling under that area at the time of accident and he came to know about accident on 6th May around 12.30 PM from Chairman cum Managing Director, SECL over telephone while he was in Dhanbad and thereafter he rushed from Dhanbad and reached Bilaspur on 7th May morning and then reached Chirimiri area and Anjan Hill Mine in the afternoon of 7th May and continued to be in the mine till all the bodies were recovered on the night of 11th May and he left the Anjan Hill Mine on the afternoon of 12th May 2010 and during his stay he found that management and officers of DGMS were giving all attention to rescue and recovery work and he had called officers of DGMS to the mine and assigned duties of preparation of plan, collection of managers diary, records etc.
- He further stated that the mine management had summoned Scientist from CIMFR and a protocol was established to collect air samples from outlet of mine fan; they were making spot measurement of gas sample

and also collecting samples for getting it analysed by gas chromatograph; he was in the control room along with CIMFR scientist and they were plotting the results, monitoring the results on the basis of which further decisions regarding rescue recovery was taken.

- It is his further statement that after recovery of last body from underground on 11th, meeting with mine management, representative from trade union, scientist, and internal safety organization was taken on 12th May 2010 where, after thorough discussion, it was decided to seal the mine; minutes of the meeting were recorded.

In response to questions during cross-examination by Shri Javed Akhtar Usmani, Shri Guha replied that he held Master of Technology degree from ISM Dhanbad and First class Manager's Certificate from DGMS for managing coal and metalliferous mines. He said that they took decisions for rescue operation on the basis of the report of gas analysis from fan and looking at the report at that point of time they did not apprehend any further explosion during the period of rescue operation and therefore, they did not think of deferring rescue operation and on 7th May 2010 it was decided only to explore the fan drift and entry portion of the Adit where they did not apprehend serious danger and send people with rescue apparatus so the risk of contamination of air breathed by rescue persons was not there. He said that though consultative committee was not formally consulted during rescue and recovery work but continuous discussion with all the members were done. According to him it was small methane explosion which turned

into coal dust explosion and that explosion did not get blown to full fledged coal dust explosion as otherwise the violence at the Adit mouths and fan drift also could have been more. In reply to question by the court he said that he not visited Anjan Hill Mine in his capacity as DDG, WZ; he had visited 0 Seam working of Anjan Hill Mine long back while working as Director, Science and Technology at DGMS Hqrs and it was the responsibility of the inspecting officer posted at Bilaspur to periodically inspect the mine. He further stated no body informed nobody in the office of DGMS Bilaspur was informed about the incident which had taken place on 3rd May onwards in the mine and he was told by officers of Bilaspur that they were informed about the incident only on 5th May over telephone and the information given appeared to be that some amount of Carbon mono-oxide was found inside sealed off panel A1 of Anjan Hill Mine and adequate measure to control the heating was being taken by local management. He further said that two officers of DGMS reached Anjan Hill Mine by 6th evening. He also pointed out to prevent the occurrence of such incidence that has taken place, certain measures are required to be taken by underground mine operators all over India. According to him certain measures are required to taken which he has set out in detail in his evidence. He also pointed out that according to him there is lot of resistance by the workers in using and carrying the heavy weight SCSR because self rescuers weight about 2.5 Kg which every worker was required to wear who work in underground mines. He further pointed out that cap lamp weight also needs to be reduced from the present 1.5 Kg

to 300 to 400 grams and management of the mines needs to examine and bring about changes to improve working condition and comfort of workmen.

6.56 Dr. Jayant Kumar, employee of State Government of Chhattisgarh was examined as CMW-1. He had not filed any affidavit. In the course of chief examination he stated that he was Doctor by profession presently working at Community Health Centre Chirimiri for the last five years and he had conducted post mortem of 10 dead bodies and had given post mortem report in each case in respect of each dead body. They were marked as Exhibit C-1 to C-10. He said that statement made by him in those reports were correct. In reply to question during cross-examination by Shri U. W. Datey, he said that out of 10 bodies in respect of which he conducted post mortem, 6 bodies came in decomposed state; peeling of the skin is not on account of burn it could be due to decomposition of the body. He pointed out that in the case of Shri S.V.R. Raju he had stated that clothes and shoes were visible and for rest 3 other bodies he did not mention and his report contains true position and he has not missed any point. In reply to question during cross-examination by Shri Javed Akhtar Usmani, he stated that peeling of skin is due to decomposition but there were burn injury also. In reply to question during cross-examination by Shri Lakshman Chandra appearing on behalf of workmen, he said that apart from burn injury in few cases, there were injuries such as head injury and abrasion such as in case of late S.K. Goswami there was fracture of skull bone. He explained that the

cause of death was asphyxia due to sudden inhalation of warm gases and coal dust.

7.0 Now, in the light of case put forward by the workmen that the accident in question had taken place on account of negligence and total failure on the part of management in taking precautionary measures to protect safety and interest of workmen and failure to comply with the conditions imposed by DGMS in the order dated 17.12.08 and 27.11.2009 and the stand taken by the management that the incident occurred on account of the circumstances beyond their control and in spite of taking all the precautions and also the assertion made on behalf of DGMS that it has taken sufficient step to ensure that the management complies with the provisions of the Act and Regulation & Rules framed and Orders made thereunder, the Court of Inquiry will now proceed to examine each of the grievances made out by workmen and defense put forward by the management and DGMS.

I Failure to comply with the conditions prescribed by DGMS:

7.1 The Court of Inquiry will proceed first to consider the grievance regarding failure to comply with the conditions prescribed in orders dated 17.12.08 and 27.11.2009 issued by DGMS while permitting the management of SECL to extract pillars from panel A1 and A2. Shri Brijeshwar Pandey (WW-7), Shri Ram Avtar Algamkar (WW-16), Shri Akhtar Javed Usmani (WW-18), Shri Mahattam Singh (WW-21), Shri Ram Kumar Kanaujia (WW-22), Shri Mochiram Dalai (WW-30), Shri Siddhnath Tripathy (WW-33) and

Shri Sunil Gupta (JW-3) have in their evidence stated that the accident had taken place on 6th May 2010 due to non compliance of the conditions prescribed in the permission order dated 17.12.08 and 27.11.2009 issued by the DGMS. They drew the attention of the Court of Inquiry to condition nos. 1.3, 1.5, 1.9 and 1.10 in the permission orders issued by DGMS to extract coal. In addition, Shri Ram Avtar Algamkar (WW-16) has also drawn our attention to condition#2.1(i) in the permission order dated 27.11.2009. It is relevant to extract the said conditions which reads as hereunder;

Condition#1.3: The workings shall be isolated as required under Regulation 118A(1)(c) of the Coal Mines Regulations, 1957...

Condition#1.5: An arrangement for quick and effective blanketing of the surface subsidence / subsidence cracks shall be ensured to prevent breathing of air through goaved out workings.

Condition#1.9: The panel/sub panel shall be extracted and sealed off within the incubation period of No. III seam ie nine months. (six months in the order dated 27.11.2009 meant for panel A2)

Condition#1.10: A code of safe practice for flushing of the extracted goaf by carbon di-oxide / Nitrogen gas and for spraying of fire sealant shall be framed and enforced by the manager of the mine.

Condition#2.1(i): Pillars lying at a depth of cover of 35 m or less shall not be extracted to avoid breathing of air through goaf and subsequent spontaneous heating. However original galleries in workings at a depth of cover of 35 m or less may be heightened.

(a) Failure to sectionalise workings:

7.1.1 With regard to the grievance of witnesses examined on behalf of the workmen that the workings were not isolated by sectionalisation before starting of operation is concerned, the Court of Inquiry is of the considered opinion that lack of sectionalisation has not contributed to the accident in question. MW-4, MW-7, MW-8, MW-9 and MW-11 in their evidence have clearly stated that management had initiated action for sectionalisation and work was under progress. They are high ranking responsible officers of SECL. Nothing has been brought out in their cross-examination to discredit their evidence. Therefore, there is no reason for the Court of Inquiry to reject their evidence and accept the grievance made out on behalf of workmen that sectionalisation of workings in Anjan Hill Mine was not done.

(b) Failure to keep the potholes filled and effectively blanket the subsidence cracks:

7.1.2 So far as the grievance of workmen witnesses Shri Brijeshwar Pandey (WW-7), Shri Ram Avtar Algamkar (WW-16), Shri Mahattam Singh (WW-21) and Shri Mochiram Dalai (WW-30) that the management has failed to keep the potholes on the surface filled and also failed to inspect the surface above Seam-III workings regularly as required by the provisions contained in Coal Mines Regulations, 1957 was the cause of accident in question, it is necessary to point out that it is the case of management witnesses Shri Bhoopendra Kumar Pandey (MW-4), Shri Gopal Das Daharia (MW-6), Shri J. N. Dash (MW-8), Shri K. C. Paul (MW-9) and Shri Sudhir Kumar

(MW-10) that there were two old potholes on the surface above seam-III workings and out of the said two potholes, one was fully filled and other was partly and in that no smoke or fire was coming out of these two old potholes and surface blanketing of subsidence cracks was being done regularly. Even the workmen witness Shri Bajrangi Shahi (WW-17) has admitted that there were only two old potholes and surface blanketing of subsidence cracks was being done regularly. In the cross-examination of the management witnesses nothing is brought on record to discredit their evidences. While denying the allegations of witnesses examined on behalf of workmen, witnesses examined on behalf of Officers' Association, Shri Rama Shankar Gupta (OAW-2) & Shri Surendra Kumar Sharma (OAW-3) have supported the evidence of management witnesses. Having carefully gone through the evidences of both the workmen and management witnesses and carefully considering the same, the Court of Inquiry is inclined to accept the version of management witnesses that there were only two potholes on the surface above Seam-III and out of them one was fully filled and other was partly filled and no smoke or fire was coming out of these old potholes. In this connection it is also necessary to refer to the evidence of Shri D. K. Mallick (DGMSW-1), Director of Mines Safety, Dhanbad, who was appointed as inquiry officer by the DGMS in accordance with Section 23 (2) of the Mines Act, 1952 for inquiring in to causes and circumstances connected with the accident in question, wherein he has stated that there was a pothole on the northern side through which fire was seen coming out. This indicates that it

was the third pothole in addition to the two other potholes in respect of which there is no dispute. His assertion is based on the statements of witnesses made before him. But none of them came and stated before the Court of Inquiry that there was a third pothole located on the northern side as referred to by Shri Mallick (DGMSW-1) and there were no opportunities for their cross examination. The correctness of the evidence collected in the course of inquiry by Shri Mallick could not be verified. Therefore, in absence of any contra material placed before the Court of Inquiry, there are no reasons to disbelieve the evidences given by Shri B. K. Pandey examined as MW-4, Shri Gopal Das Daharia examined as MW-6 and Shri Sudhir Kumar examined as MW-10, wherein they have stated that when they inspected potholes on the surface above Seam-III on the morning of 6th May 2010, one of them was fully filled and other was partly filled. Even according to the evidence of DGMSW-1, he has inspected the third pothole only on 12th May 2010. Further it is on record that recovery work was being carried out from 7th May till 12th May 2010. If the fire coming out of the third pothole was indicative of any accident or cause for accident that had taken place on 6th May 2010, similar incidence should have repeated at least once after 6th May 2010. Nothing of the nature has taken place and recovery of dead bodies for a period spread over from 7th to 12th May 2010 was smooth without any untoward incident. Further, it is on record that there were minor blasts on 4th May and 5th May 2010 which made the management to stop the work on 5th May evening. Under these circumstances, it is difficult to come

to the conclusion that third pothole was in existence on the date of accident and the fire coming out of the pothole was indicative of the cause of accident. Further, it is also necessary to point out that none of the witnesses examined on behalf of workmen supported the evidence of WW-16 and WW-18 that effective blanketing of surface subsidence cracks was not being done. The WW-16 & WW-18 also had not visited the spot. Under these circumstances the Court of Inquiry finds it difficult to accept the version of WW-16 & WW-18 that there was crack on the surface.

(c) Failure to complete the panel/sub-panel and sealed off within the incubation period:

7.1.3 The grievance of WW-16 and WW-18 that panel was not extracted and sealed within the incubation period of Seam-III was strongly refuted by MW-10 whose evidence show that the panel was subdivided and management was permitted to subdivide the same and each sub division was completed within the incubation period and therefore there was no violation of condition of the permission order as alleged. No contra material was placed before the court to discredit the assertion of MW-10. MW-10 was the Area Safety Officer and fairly senior officer in the hierarchy of management. When he has asserted in his evidence that the panel was subdivided and each sub-division was completed within the prescribed period the Court of Inquiry finds it difficult to reject his evidence and accept the version of WW-16 and WW-18 who are not familiar with the actual condition

of the Anjan Hill Mine and their version is to a large extent based on hearsay evidence.

(d) Failure to flush the extracted goaf by Carbon di-oxide / Nitrogen gas:

7.1.4 The management witnesses MW-2, MW-4, MW-8, MW-9 and MW-10 who were examined on behalf of the management refuted the charges that Nitrogen was not being flushed in the goaf. Their evidence indicates that the management has complied with the conditions prescribed while granting the permission for extraction of pillars. MW-9 and MW-10 have asserted in the cross examination that Carbon di-oxide (CO₂) was being flushed in to goaf since October 2009 in place of Nitrogen (N₂). MW-10 also stated that CIMFR had conducted studies to assess the performance of Carbon di-oxide in cooling down the panel. The evidence of Officers' Association witnesses, OAW-1, OAW-2 & OAW-3 indicates that all practical and possible precautions were taken by all the officers of the mine and area management within the framework of law. However, representatives appearing on behalf of workmen did not bring out anything in their cross-examination to discredit their statements. Therefore the court of Inquiry finds that there is absolutely no justification to disbelieve the version of the management witnesses that Carbon di-oxide was being flushed in to goaf in place of Nitrogen. While the Court of Inquiry appreciates the concern expressed on behalf of workmen that after calling for tenders to commission Nitrogen plant no further steps were taken by the management to place orders and procure and install Nitrogen plant, the Court of Inquiry is of the view since flushing of area was

done by Carbon di-oxide, non procurement of Nitrogen plant has not resulted in violation imposed in the permission order as the permission order has given an option of flushing the goaf either by Carbon di-oxide or Nitrogen. However, it is necessary to point out that since steps were taken to call for tender for installation of Nitrogen plant it was expected by the management to take effective steps to procure the Nitrogen plant and install the same. However, notwithstanding the finding that non procurement of Nitrogen plant has not resulted in violation of the condition in permission order as goaf was being flushed by Carbon di-oxide, the Court of Inquiry recommends SECL management to take effective steps to install Nitrogen plant in the event of mine is being made operational.

(e) Extraction of pillars lying under shallow cover in Panel A2:

7.1.5 One of the witnesses examined on behalf of workmen, WW-16, has stated that management has failed to comply with the condition of permission in the order dated 27.11.2009 issued by DGMS. As observed by us earlier, WW-16 in his evidence has stated that as per the permission order pillars lying under the cover less than 35 m should not be extracted. Now, the question is as a matter of fact, whether the assertion made by WW-16 is true? None of the witnesses including the union leaders except WW-16 has made out the grievance referred to above. Further the statement made by WW-16 in his affidavit is vague. He does not explain as to how many pillars with less than 35 m thick cover existed. He has not stated in his affidavit as to how condition#2.1(i) has not been complied with. It is also relevant to

point out that WW-16 is neither a workman carrying on mining operation at Anjan Hill Mine nor it is his case that he has visited Anjan Hill Mine and seen actual violations of condition in order dated 27.11.2009 issued by DGMS while granting permission to extract pillars from panel A2. Under these circumstances, the Court of Inquiry finds it difficult to accept the version of WW-16 that condition#2.1(i) was not complied with by SECL management while carrying on mining operations at Anjan Hill Mine.

7.1.6 In the light of discussion made above, the Court of Inquiry is of the opinion that the grievance made on behalf of workmen that conditions prescribed in permission orders dated 17.12.2008 and 27.11.2009 issued by DGMS were not complied with by the SECL management does not merit acceptance and in any event of the matter that is not the cause for the incidents that occurred on 3rd, 4th and 5th May 2010 and the accident that had taken place on 6th May 2010.

II Inaccurate Plan:

7.2 The evidence on record shows that the DGMS had granted permission by means of orders dated 17.12.2008 and 27.11.2009 to SECL for extraction of pillars in Panel A1 and A2 on the basis of Plans submitted by SECL wherein the depth of cover was shown as 50 m. Further evidence on record also discloses that management of SECL discovered a pothole above Panel A1 in the month of January 2009 and in view of that SECL directed re-correlation survey to be conducted. On such survey, the surveyor (MW-6) has submitted that the difference between the depths of cover above Panel A1 as per plan

submitted by SECL for seeking permission of extraction and as per the re-correlation survey was about 10 m. It is useful to point out that the management witness MW-11 in his evidence has submitted that the pothole formed in the beginning of commencement of extraction in Panel A1 joining surface with only 5 m hard cover and the plan showed the depth of cover to be 40 m. It is relevant to point out that the pothole was discovered by SECL within one month of grant of permission to extract pillars in Panel A1. Material available on record also shows that officer of DGMS inspected Anjan Hill Mine on 7.2.2009, 5.3.2009, 9.8.2009, 12.1.2010 and 13.1.2010 and therefore it is reasonable to infer that officials of DGMS had knowledge about the pothole and differing values of depth of cover indicated above and noticed by SECL after the re-correlation survey. It is also necessary to point out that in the event of such information coming to the knowledge of DGMS, it was their duty to seek clarification from SECL and thereafter in the light of the clarification given to take appropriate decision with regards to permission order granted for extraction of pillars in Panel A1 as the permission granted proceeded on the basis of larger depth of cover. There is nothing on record to show that it was done. Further, it is also necessary to point out that as soon as it came to the knowledge of SECL that there is change in the depth of cover above Panel A1 on the basis of re-correlation survey, it was an obligation on the part of SECL to inform DGMS that earlier information given by SECL to DGMS stating that depth of cover is 50 m was not correct and re-correlation survey has established that it was only 10 m

so that DGMS would apply its mind to the question as to permission granted earlier should be withdrawn or continued with imposition of additional conditions. Nothing is placed on record to show that SECL informed DGMS that depth of cover indicated in the application for seeking permission for extraction of pillars in Panel A1 as 50 m was noticed to be 10 m in subsequent survey conducted by them and any corrective steps were taken either by DGMS or SECL.

7.2.1 In the light of discussions made above, the Court of Inquiry is of the view that DGMS had failed in its duty to take appropriate step or give appropriate direction to SECL at the time of inspection of the mine and noticing that the depth of cover was only 10 m as against 50 m as shown in the plan. It is not open to DGMS to take a stand that it did not come to their notice that the depth of cover above Panel A1 was only 10 m as against 50 m shown on the plan submitted by SECL for seeking permission for extraction. Further, since nothing has been placed on record that SECL had informed DGMS that a re-correlation survey was conducted, the Court of Inquiry is of the opinion that there was serious lapse on the part of SECL in not communicating DGMS that depth of cover indicated earlier as 50 m was noticed as 10 m after the re-correlation survey. The Court of Inquiry would also like to point out that the while applying for permission for extraction of pillars, it is required to submit plan with an object that DGMS would make up its mind whether permission is to be granted or refused. Therefore, accuracy of survey and preparation of plan on the basis of survey report is very important and that

is why the plan needs to be certified as correct by the competent persons. The colliery manager and surveyor have statutory duty to satisfy themselves about accuracy of the survey and certificate of correctness given by them. In the instant case, no doubt, the evidence on record shows that there was presence of Carbon mono-oxide behind the sealed off Panel A1 due to spontaneous heating therein but in absence of clinching evidence to show that creation of pothole is an outcome of lesser depth of cover and the same gave passage to air into the sealed off Panel A1 and has contributed to the accident in question, it is not possible to come to definite conclusion that inaccuracy of plan submitted has contributed to the accident, though it cannot be totally ruled out that it might have contributed. Further Panel A1 was sealed off after extraction of pillars and there is no evidence to show that inspite of that fire had come out of sealed off area. Since after the accident the entire Anjan hill mine has been sealed off the Court of Inquiry did not have the opportunity of inspecting underground workings to find out whether stoppings in Panel A1, which was sealed off, had broken down. In the facts and circumstance, the Court of Inquiry gives benefit of doubt. However, the Court of Inquiry recommends both SECL and DGMS to conduct an enquiry with regard to the correctness of the two survey reports and take appropriate action in the matter against the concerned who were responsible for giving inaccurate survey report. DGMS is also required to find out under what circumstances it overlooked the result of re-correlation surveys and as

to under what circumstances it overlooked the same at the time of inspection referred to above.

7.3 Now, the Court of Inquiry will proceed to consider three other related issues raised by the workmen which according to them were the causes for the accident. They are (a) accumulation of coal dust in mine galleries, (b) inadequacy in water spraying system (c) treating coal dust with incombustible dust. Since all the three issues referred to above are interrelated, the Court of Inquiry feels it is appropriate to deal with them together.

III Failure to check coal dust accumulation and inadequate treatment of coal dust with water and incombustible dust:

7.3.1 Shri Akhtar Ali (WW-6), Shri Brijeshwar Pandey (WW-7), Smt Ranmatia Bai (WW-8), Smt Naina Singh (WW-9), Shri Bharat Lal (MW-11), Shri Lalit Singh (WW-12), Shri Brijbhushan Singh (WW-13), Shri Ram Avtar Algamkar (WW-16), Shri Imrat Lal Chaudhary (MW-20), Shri Mahattam Singh (MW-21), Shri Ram Kumar Kanaujia (WW-22), Shri Mochiram Dalai (WW-30), Shri Surendra Singh (MW-32), Shri Siddhnath Tripathy (MW-33), Mohammad Amin Khan (WW-34) and Shri D. K. Mallick (DGMSW-1) have stated in their evidence that there was accumulation of coal dust in Anjan Hill Mine and water spraying was not being done in the mine regularly. However WW-22 and WW-30 have further stated in their evidence that the coal dust was being removed from the mine but it was not satisfactory. Similarly, WW-7, MW-9, MW-11, MW-12, MW-13 and Shri Somnath Pradhan

(MW-31) have also further stated that there was inadequacy of water spraying in the mine for suppression of coal dust in underground workings. However, the management witnesses Shri Surya Vikram Pratap Singh (MW-2), Shri B. K. Pandey (MW-4), Shri Somra Lomga (MW-5), Shri Tarun Kumar Dubey (MW-7), Shri Jayant Kumar Dash (MW-8) and Shri K. C. Paul (MW-9) have refuted the allegations that the coal dust was not being removed from time to time and asserted that this coal dust was being removed regularly and water was being sprayed adequately. Their evidence finds support from the evidence of workmen witnesses Shri Bajrangi Shahi (WW-17) & Shri Sanjay Kumar Verma (WW-24). Further, the Officer's Association witnesses Shri Rama Shankar Gupta (OAW-2) & Shri Surendra Kumar Sharma (OAW-3) have also stated that coal dust was being removed regularly. Further in the written submission filed on behalf of management it is also stated that removal of coal from old workings was a continuing process and about four lakh tonnes of fallen coal had been removed from Anjan Hill Mine in the past forty months prior to the accident that occurred on 6th May 2010. There cannot be any doubt that there will be coal dust in an underground coal mine; however it is needless to point out that effective steps are required to be taken to remove the coal dust so that it may not accumulate giving scope for any untoward incident like coal dust explosion.

7.3.2 While it is the grievance of the witnesses examined on behalf of the workmen and more particularly WW-7, WW-13, WW-16, WW-20, WW-22, WW-30 and WW-31 that there was inadequacy of water spraying and that

contributed for the accident, the management witnesses Shri B. Pandey (WW-4), Shri Tarun Kumar Dubey (MW-7), Shri Jayant Kumar Dash (MW-8), Shri K. C. Pal (MW-9) and Shri S. S. Malhi (MW-11) have asserted that water spraying was being done regularly and it was ensured that there was enough water available at the mine all the time and 7 km long pipe line was laid at considerable cost for bringing water from a river / nala to the mine for water spraying and for the use in drilling machine. In the light of the evidence placed before the Court of Inquiry, it is inclined to take the view that though the water that was being sprayed may be not adequate at times, but it is not possible to come to the conclusion that there was inadequacy of water supply.

7.3.3 The other issue that was raised by witnesses examined on behalf of workmen was that the coal dust was not being treated with incombustible dust in sufficient quantities and it has contributed in propagation of flame of coal dust explosion. Shri Sudhir Kumar (MW-10) on the other hand has stated that about 1000 tonnes of incombustible dust was received in the mine during the year 2008-09 and also during 2009-10 for treatment of coal dust and stone dusting was done. However, it is necessary to point out that while MW-10 has asserted that stone dusting was regularly done, the workmen witnesses who have claimed that stone dusting was not done were not the workmen working in Anjan Hill Mine. Their evidence discloses that they do not have first hand information or knowledge of the situation prevailing in the Anjan Hill Mine. Under these circumstances while the Court

of Inquiry is not inclined to accept the evidence of workmen witnesses that stone dusting was not being done, the Court of Inquiry has no reason to disbelieve the management witness MW-10 and Officer's Association witnesses OAW-1, OAW-2 and OAW-3 who have asserted that stone dusting was being done in Anjan Hill Mine. Further WW-17 who was examined on behalf of workmen also supported the management version. In the light of the discussions made above, the Court of Inquiry finds it difficult to accept the version of workmen witnesses alleging that coal dust was not being removed regularly, water spraying was not being done adequately and stone dusting was not being done and the same have contributed to the accident that occurred on 6th May 2010.

IV Unauthorised storage of explosive in the mine at the time of accident:

7.4 Now the Court of Inquiry proceeds to address itself to the question as to whether the accident in question got aggravated account of storage of explosive inside the mine. The workmen witnesses Shri Akhtar Ali (WW-6), Shri Brijeshwar Pandey (WW-7), Smt Ranmatia Bai (WW-8), Smt Naina Singh (WW-9), Shri Bharat Lal (WW-11), Shri Akhtar Javed Usmani (WW-18), Shri Mahattam Singh (WW-21), Shri Ram Kumar Kanaujia (WW-22) and Shri Mochiram Dalai (WW-30) have in their evidence stated that there was unauthorised storage of explosives in the mine and the same has contributed in aggravating the intensity of explosion. This grievance of the workmen has been strongly countered by the management. Management in the written submission has asserted that they were taking

such quantities of explosives which were required for the purpose of use in underground. It is their case that since explosives are required for the purpose of breaking coal, taking of the explosives to the underground mine and storing the remainder for a certain short period of time is in the very nature of mine working. The management has also relied upon letter no. IEL/VM/DGMS/BSP dated 28th July 2010 written by Technical Service Manager of M/s Indian Explosives Ltd (who is manufacturer of the explosive known as Powering Explosive and Powercord detonating fuse that was stored in underground at the time of accident in Anjan Hill Mine) which is made part of the report submitted by Shri D. K. Mallick (DGMSW-1) wherein he has stated as "Powering explosives are emulsion explosives and shall start burning once these come in contact with fire or very high temperatures. The explosives are unlikely to detonate in such conditions. Powercord fuse contains PETN which melts at about 140⁰ Celsius and may start decomposing beyond 150⁰ Celsius and might explode at around 210⁰ Celsius if kept in a highly confined space. Therefore under the storage condition mentioned in your letter the PETN of the Powercord is likely to melt and not to explode. We expect the explosives and Powercord to burn before they come under the effect of a wave of explosion. Moreover, even if the explosives come in contact of explosion wave the explosives are not likely to detonate due to no confinement of explosives." No doubt, the evidence on record shows that there was some explosive stored in the underground 'Reserve Station' at the time of the accident on 6th May 2010.

Since the letter dated 28th July 2010 given by manufacturer of explosives in unequivocal terms states that at temperatures likely to prevail in case of explosion and also explosive coming in contact with explosion waves, the explosive will not explode or detonate, the Court of inquiry is of the opinion that even assuming small quantities of explosive was found stored, has not contributed for aggravating the explosion as claimed by the witnesses examined on behalf of the workmen. However, the Court of Inquiry would like to point out and caution the management that since large number of work force are working in the underground mine explosives being a dangerous material and it has a tendency to explode with the detonator or some other source of detonation, the persons in-charge of carrying on mining operation will have to take all the precautions and take care not to carry or take explosives more than the quantity actually required for the immediate requirement of the work. It is necessary to point out that when the work was suspended and workmen were withdrawn on account of high concentration of carbon mono-oxide in the mine, it was expected that the remaining quantity of explosive in the underground also would have been removed.

V Allegation that adoption of Blasting Gallery (BG) method of extraction is the cause for accident:

7.5 It is the case of the witness examined on behalf of workmen and more particularly WW-18 that adoption of BG method of extraction at Anjan Hill Mine was the cause for accident. However, management witnesses Shri

Sudhir Kumar, Area Safety Officer who was examined as MW-10 and Shri Jayant Kumar Dash, Colliery Manager who was examined as MW-8 have categorically asserted that BG method is a well recognised practice of extracting coal. It is their case that less number of workmen is required for BG method thereby reducing the risk element to the workforce and cost of production is substantially reduced. It is submitted by the management witnesses that Central Mine Planning & Design Institute Ltd, a sister company of SECL which provide technical consultancy to SECL had made feasibility studies and Central Institute of Mine & Fuel Research (CIMFR) which is a premier scientific body in the country conducted scientific study on behalf of SECL before introduction of BG method in the mine. DGMSW-2 informed that the permission for extraction from panel A1 and A2 of seam-III was granted on the basis of recommendation of CIMFR. They also stated that before BG method was adopted in Anjan Hill Mine the management of SECL had secured the opinion from CMPDI and CIMFR who are experts in the field and they in their opinion had approved the suitability of carrying on mining operation by BG method. In addition to the evidence of the witnesses of the management the evidence of Shri Rahul Guha who was examined as DGMSW-2 also shows that BG method was one of the well recognised methods. The evidence on record shows that the SECL management had taken the care of securing opinion from CMPDI and CIMFR who are stated to be experts in the field and the evidence of the witnesses of the management clearly shows that BG method of extracting of coal is one of the recognized

methods of extraction all over the world. Except the self serving assertion of WW-18 in the course of his evidence there is nothing placed on record to show that adopting BG method was one of the causes for the accident in question. It is also necessary to point out that conventional bord and pillar method of mining in thick seams yielded percentage of extraction as low as 30% even under most favourable conditions. The method involved blasting of series of holes drilled into sides and roof of the galleries in single operation. Remote controlled loading machine commonly known as LHDs were employed for loading of blasted coal and dumping on the chain conveyor for out-bye transportation. It is also in evidence of management that 6 to 8 m thickness of Seam-III in Anjan Hill Mine was suitable for the BG method and therefore it was introduced in Panel A1 in the year 2008. The report of Shri Mallick examined as DGMSW-1 has observed in his report that the method of work in Anjan Hill Mine included drilling of thirty holes of not more than 12.7 m in depth in one ring at an inclination of 30-40⁰ towards the goaf using Jumbo Drill Machines, charging these holes with 90 to 120 Kg of explosive in conjunction with detonating chord and blasting. Spacing between consecutive rings of shot-holes was kept at 1.5 m and induced blasting was being done to force the hanging roof to cave and fill the goaf by drilling about 18 m long holes into the roof of the galleries in two rows where four holes in each row were kept inclined at 60⁰ and 45⁰ from vertical respectively and each hole was charged with 4 kg of explosive. Therefore, the Court of Inquiry does not find any merit in the grievance

made that adopting BG method of extraction of coal was one of the causes for the accident.

VI Failure to procure safety related items:

7.6 Serious grievance was made in the evidence of witnesses who were victims, relations of deceased and union leaders that one of the causes of accident in question was lack of procurement of necessary equipments like Nitrogen Plant, self rescuers and making available funds for construction of isolation stoppings for the purpose of sectionalisation. While the Court of Inquiry finds considerable force in the grievance made out that necessary equipments and material were not procured by the management which were required to be used for safety of workmen working in the mine, it is difficult for the Court of Inquiry to take a view that either the death of victims or injuries sustained by the victims in the accident in question was on account of lack or paucity of necessary equipments. Material placed before the Court of Inquiry shows sufficient material or equipments were procured and made available from 3rd May to 6th May 2010 to meet the immediate requirement. However, it does not mean that the management is absolved of its responsibility of not procuring and keeping in reserve the equipments that are required for protecting the interest of the workmen and other staff. Provisions of the Act and Regulations & Rules made thereunder cast an obligation on the management to take necessary precautionary measures to protect the interest of workmen who work in the mine. The Court of Inquiry strongly recommends to the management to strictly comply with provisions of Act,

Regulations & Rules framed thereunder and it casts an obligation on the Management to procure, store and provide all other facilities to protect the interest of workmen. It is also the duty of the DGMS under the Act to see that the management ensures compliance of the provisions of the Act, Regulations & Rules and orders made thereunder. The Court of Inquiry recommends to DGMS to inspect mines and check up whether the management has procured necessary materials and equipment and made them available at the mines that are required to protect the interest of the workmen who work in the mine.

VII Issue of approval of the Central Government for diversion of forest land of Anjan Hill Mine:

7.7 With regard to the grievance made out by the workmen that management of the SECL had not obtained approval of the central government for diversion of forest land of Anjan Hill Mine, it is useful to cull out relevant portion of the statement made in the written submission filed on behalf of management which reads as hereunder:

- Mining Lease for Anjan Hill Mine was granted prior to the introduction of the Forest (Conservation) Act 1980 which required approval of Central Government for diversion of any forest land for non-forest purpose. Some area of forest land was a part of the Anjan Hill Mine leasehold area and therefore SECL management made application for diversion of the said land for mining purpose. Ministry of Environment and Forests, Government of India granted temporary working permission in 2004

which was subsequently renewed in 2005. Meanwhile, the Honourable Supreme Court cancelled all temporary working permissions in 2005. However, on the request made by SECL, Hon'ble Supreme Court passed an order in December 2005, permitting SECL to carry on mining operation subject to certain conditions. The operative part of the same is extracted hereinunder:

"Having regard to the peculiar circumstances brought to our notice by learned Solicitor General and having regard to the larger public interest we permit operation of mines subject to the applicant- South Eastern Coalfields Ltd. - depositing an amount in the sum of Rs Fifty Crores towards NPV and undertaking to deposit the remaining amount. The amount shall be deposited with CEC".

NPV: Net Present Value, CEC: Central Empowered Committee

- SECL deposited the amount and furnished undertaking as specified in the order and obtained in principle approval from the Ministry of Environment & Forest for diversion of 989.40 Hectare of forest land subject to fulfillment of specified conditions. Final approval of the Central Government for diversion of the forest land is expected shortly. It is worth mentioning that at no point of time any prohibitory order has been issued by the forest authorities.

7.7.1 No doubt as it can be seen from the stand taken by the management that final approval of diversion of forest land is expected shortly. Though it is incumbent on the part of SECL management as required under Section 2 of

the Forest (Conservation) Act, 1980 to obtain permission for diversion of forest land for non-forest purpose, there is no material placed before the Court of Inquiry to show failure to obtain approval of the central government is direct cause of accident. It is relevant to point out that the order passed by Honourable Supreme Court referred to above permitted operation of mines subject to conditions imposed in the order. However the Court of Inquiry would like to point out that the management of SECL is required to obtain necessary permission from the Government of India, if they intend to commence mining operation at Anjan Hill Mine.

VIII Regarding allegation of poor quality of construction of stoppings in the mine:

7.8 The Court of Inquiry has carefully gone through the evidences of Shri Ram Avtar Algamkar (WW-16), Shri Mahattam Singh (WW-21), Shri Surendra Singh (WW-32) and Siddhnath Tripathy (WW-33) with regard to the allegation that the quality of construction of stoppings in Anjan Hill Mine was of poor quality and sub-standard and therefore it has led the leak of Carbon mono-oxide gas in Panel A1. It is useful to point out that WW-16, WW-21, WW-32 and WW-33 are not the workmen who work in Anjan Hill Mine. It is also not in their evidence that they used to visit underground workings of Anjan Hill Mine regularly and had occasions to notice the quality of construction of stoppings was of very inferior nature. They have also not placed any material before the Court of Inquiry in support of said grievance. Under these circumstances, the Court of Inquiry finds it difficult to accept their version that poor quality of construction in underground mine carried

out by SECL management led to the accident. Accordingly the said charge is rejected as one without any merit.

IX Sending of rescue teams to underground mines on 6th May morning:

7.9 The Court of Inquiry will now proceed to examine the grievance of the workmen witnesses WW-1, WW-3, WW-16, WW-18 and WW-33 that when management having withdrawn the workforce and decided to stop carrying on mining operation, whether the management was justified in sending two rescue teams to underground workings in the morning at 6:00 am on 6th May 2010. It is on record that two rescue teams which were described as team-A and team-B having six members in each team and one among the six members in each team having been designated as a leader were sent underground mine at 6:00 am on 6th May. Team-A was headed by Shri K. S. Ali (WW-29) and team-B was headed by late S. V. R. Raju. Admitted facts disclose that six members of team-A were wearing Self Contained Breathing Apparatus (SCBA) and six members of team-B were only wearing Self Contained Self Rescuers (SCSR). Shri P. K. Mitra, Rescue superintendent (MW-3) also had accompanied team-B. While all the members of team-A returned back safely and two of the team-B members who returned leaving other four in underground were also safe and returned unhurt. However four members of team-B including the leader died in the accident. It is the evidence of workmen witnesses WW-16, WW-18, WW-30 & others that the situation under which the mine was undergoing since 3rd May and Carbon mono-oxide concentration on 5th May was being more than 5521 ppm,

sending the said two rescue teams to underground was a total act of negligence and callousness on the part of managerial staff who were on the site in the morning of 6th May 2010. Some of the relations of the deceased workmen also have stated that the deceased had informed them that the working in the mine from 3rd May was unsafe but still they were made to work by the management. Evidence on record shows that late Goswami, Shri P. K. Mitra (MW-3), Shri J. N. Dash (MW-8), Shri K. C. Paul (MW-9) and Shri Sudhir Kumar (MW-10) were present at the site on the morning of 6th May 2010. However, Shri S. S. Malhi (MW-11) who had directed withdrawal of the workforce and stopping of work in the mine had left the mine site at 3:45 am and came back only at 10:40 am. The evidence on record also shows that late Goswami who was in-charge of mining operations and one of the key managerial staff of SECL was a very well trained, experienced and knowledgeable person. Shri J. N. Dash (MW-8), Shri P. K. Mitra (MW-3) and Shri K. C. Paul (MW-9) have in their evidence stated that late Goswami took a decision to send rescue teams to underground on the morning of 6th May 2010. The evidence of Shri K. S. Ali (WW-29) also shows that the leader of team-B informed Shri P. K. Mitra (MW-3) that late Goswami had told the four members of team-B to stay back and not to return back alongwith the members of team-A or other two members of team-B who returned. Evidence on record also shows that rescue apparatus (SCBA) were kept at the Fresh Air Base and Self rescuers (SCSR) would satisfy the need for half an hour time. It is also relevant to

point out that evidence of Shri Rahul Guha (DGMSW-2) also indicate that workers are generally reluctant to wear SCBA. Evidence on record also shows that while members of team-A were wearing SCBAs and the members of team-B were wearing only SCSRs and SCBAs were available to them at Fresh Air Base in case of any need as SCSR which was worn by them was sufficient for half an hour. Under these circumstances, it would not be correct to draw an inference against the management that the managerial staff of SECL was negligent in not compelling members of team-B to wear SCBAs specially when members of team-A were going forward and were wearing SCBAs. Court of Inquiry is of the view that since team-B was wearing SCSRs they were sufficiently protected from any untoward incident. The facts of the case indicates that the top managerial staff in the cadre of General Manager (Operation), Sub-Area Manager, Rescue Superintendent and Colliery Manager were at the site. Evidence on record further shows that all of them had sufficient experience in working of the mines and rescue operations and also dealing with such situations. The evidence of MW-8, MW-9 and MW-10 shows that control room was set up at the mine and all operations including rescue operation were being monitored from the control room. According to the Rescue Rules, senior most official present at the site is designated as principal officer and all instructions must be given by him. Shri J. N. Dash (MW-8), Shri P. K. Mitra (MW-3) and Shri K. S. Ali (WW-29) have stated in their evidence that late Goswami gave instructions to send two rescue teams and also two persons to collect air samples from

underground mine. Their version is consistent with the responsibility fixed on the Principal Officer under the Rescue Rules. Further, while Shri J. N. Dash was Manager and Shri K. C. Paul was Agent, late Goswami was also a Deemed Agent within the meaning of the Act. Under these circumstances, though Shri Dash was under a statutory obligation to carry out the duties and responsibilities entrusted to the Manager under the Act, in view of the corporate hierarchy fixed and late Goswami also being considered deemed agent and he was the Principal Officer under the Rescue rules, Shri J. N. Dash and Shri K. C. Paul were required to follow the instructions of late Goswami in the absence of Shri S. S. Malhi on the spot. Therefore, it is difficult to find fault either with Shri Dash or Shri Paul for allowing the two rescue teams and sending two persons for collecting air samples from underground mine on the instruction given by late Goswami. The fault or negligence if it is found established for sending the two rescue teams to underground and two other persons for collecting air samples would squarely lay on late Goswami and not on MW-3, MW-8, MW-9 or any other staff for not overruling the instructions given by late Goswami. The only question that the Court of Inquiry has to carefully consider is as to whether the blame is transferred on late Goswami on account of his death or really he was the one who had given instructions to send the rescue teams to the underground mine and two other persons to collect air samples and also allowing to carry on training of some of the persons over the surface who met with an accident on the fateful day. In the light of the evidence

discussed above and also the obligation imposed on Principal Officer under the Rescue Rules, the Court of Inquiry cannot draw an inference that the managerial staff of SECL management is transferring their blame on late Goswami for sending two rescue teams to the underground mine and two other persons to collect air samples and also allowing to carry on training of some of the persons over the surface. It is also necessary to point out that Shri S. S. Malhi, Chief General manager (MW-11) has given full complements in his evidence to the competency and managerial skill of late Goswami. He has stated "Shri Goswami was very knowledgeable, experienced and a trained rescue person therefore everybody would give weight to his suggestions." Late Goswami was holding the post of General Manager (Operation). He was on the spot. Shri Dash & Shri Mitra were officers in the rank lower than him and there is no contra evidence placed before us that late Goswami was not the person who had sent the rescue teams to underground and also two persons to collect air samples and also about his competency, knowledge and managerial skill. There is also no other evidence placed on record pointing out that any other officer of the management was responsible for taking a decision to send the rescue teams to underground and also the two persons to collect samples and allowing some workmen to undergo training on the surface as to how to wear self rescuers. The Court of Inquiry is inclined to believe that decision to send rescue teams to underground was taken by late Goswami. Still the question that remains which is required to be addressed is whether his decision under

the circumstance was un-warranted or whether he was negligent and took the decision without any regard to safety and welfare of the workers? Evidence on record shows that late Goswami was highly experienced, competent and well trained in rescue operations. Nothing would have been easier for him and other managerial staff to take a decision to completely move away from the mine and keep it closed or seal it off. However it was not done. Late Goswami who laid his life and Shri P. K. Mitra and Shri J. N. Dash had exposed themselves to the danger of losing their lives were with the other workers at the time of accident. The evidence on record clearly establishes that both Shri P. K. Mitra and Shri J. N. Dash were seriously injured and were hospitalised for considerable period of time. In fact, the Court of Inquiry had the opportunity of seeing serious injuries sustained by Shri P. K. Mitra who had come before the Court of Inquiry to give evidence directly from the hospital. The facts and circumstances clearly indicate that with their experience of several years working in the mine, they did not anticipate such a situation wherein there will be sudden outburst of coal dust explosion as claimed by workmen witnesses or airblast as claimed by management witnesses. Whether the people were killed on account of coal dust explosion or airblast, it is not very material. The question is whether there was any negligence on the part of the managerial staff in sending two rescue teams and two other persons for collecting air samples to underground on that fateful day and also allowing other workers to stand or undergo training on rescue operation near the mine mouth. After carefully

analyzing the evidence on record and after bestowing considerable attention to the circumstances under which accident that has taken place on 6th May, the Court of Inquiry is inclined to take the view that the accident in question had taken place either on account of the coal dust explosion or airblast. Coal dust explosion or Airblast could have taken place either on account of spontaneous heating or sudden collapse of roof somewhere in the goaf which were not anticipated either by late Goswami or any other managerial staff who were at the spot. The only thing that is required to be noticed and pointed out against managerial staff is that when Carbon mono-oxide was more than 5521 ppm, was it prudent and reasonable to send rescue team to underground mine and two persons for collecting air samples from underground exposing them even remotely to some untoward incident. Whether in such circumstance the well experienced persons in the management should have sent people away from the mine at least for few more days and watched further development in the mine? Prima facie, it may appear that the persons in management should have sent the people away from the mine once the decision was taken to withdraw all workmen from underground and stop all mining operations. However, one cannot ignore or forget SECL is a public sector undertaking carrying on mining operation. Top management has experienced people in mining operation and also in rescue operation. Admittedly, a decision was also taken to withdraw workmen from underground, the only act or work, the top management proceeded to do was to send two rescue teams and two

persons for collecting air samples for the purpose of verifying the condition of the mine and also to keep minimum staff on the surface for the purpose of giving them training on rescue operation for sending them underground when needed. No doubt, it was very easy and the safest step to stop the work, but top managerial staff cannot absolve their responsibility of analysing the situation so that the remedial measures could be taken if possible to avoid any further untoward incident and make the mine operational. In this connection, it is also necessary to point out that when the rescue team is sent with SCBA they are not exposed to any risk element. Therefore, under these circumstances, if late Goswami felt that the cause for higher percentage of Carbon mono-oxide in the mine and location of its source was required to be verified and found out and if he had sent rescue teams with full protection and an officer in the rank of Rescue Superintendent also had accompanied them, it is difficult to take the view that late Goswami or any other managerial staff who associated with him in taking decision were either negligent or callous in taking such decision. The Court of Inquiry is of the view that it could be a bonafide error of judgment. Further, in a matter like this, in the absence of clear and clinching evidence, the benefit of doubt will have to be given to late Goswami and other managerial staff who had associated with him in taking decision to send rescue teams to underground and two persons for collecting air samples from underground and allowing some workers to take training on the surface. It is easy to find fault with the decision taken after the event on the

ground few lives are lost and many are injured, even if the decision taken in the circumstances was prudent and bonafide. Further it is also on record that that the rescue operation continued from 7th to 12th May. Nothing had changed in the mine after the accident on 6th May 2010 and decision was taken by Deputy Director General of Mines Safety to send rescue teams in the mine for recovery work. Therefore, it is possible under similar circumstances late Goswami must have felt it was not unsafe to send two rescue teams underground and allowing persons to collect air samples from underground. Evidence discloses that the situation which was existing prior to 6th May 2010 when accident took place continued thereafter and in the presence of Deputy Director General of Mines Safety, if the management took steps to recover bodies from underground and said recovery proceedings continued from 7th to 12th May 2010 and at that stage no one from work force objected for carrying on recovery of bodies and a conscious decision was taken to carry on rescue work and no untoward incident took place during that period, the question arises whether the officers who were present at the site on the morning of 6th May 2010 were totally negligent in sending two rescue teams as referred to by the Court of Inquiry earlier to underground mine and therefore late Goswami, Shri K. C. Paul, Shri J. N. Dash and Shri P. K. Mitra who were at the spot should be held responsible for the accident? Having carefully gone through the evidences on record the Court of Inquiry is of the opinion that it is not possible to come to such a conclusion; and at any event of the matter it will be highly unsafe to come

to such a conclusion. It is relevant to point out that while the Court of Inquiry is required to find out the cause for the accident, nature of finding recorded by the Court of Inquiry or report given by the Court of Inquiry would result in penal consequences so far as management or staff who are held accountable for the accident. In that situation the Court of Inquiry is required to analyse the evidences very carefully giving some margin to exaggeration of evidence of the witnesses who are keen in fixing the liability on the management in respect of the accident either on the ground they are anxious to get higher compensation for loss of life or injuries sustained by some of them or in an anxiety to get medical and other better facilities or to have improved service condition in the course of employment. Before the Court of Inquiry holds the managerial staff of SECL responsible for the accident, the evidence placed before the Court of Inquiry is required to be analysed or tested on the parameter that is required to be applied to a large extent in a criminal case. It is also relevant to point out that Regulation 119 of the Coal Mines Regulations, 1957 referred to above requires that on the appearance in any part of a mine or signs indicating that a fire or spontaneous heating has or may have broken out, person in-charge of mining operations shall immediately withdraw from the mine all persons other than those whose presence in the mine is deemed necessary for dealing with the fire or heating. Therefore, this regulation indicates that it is permissible for the management to employ minimum staff for the purpose of dealing with the fire. In the instant case the evidence on record shows that

Shri S. S. Malhi, Chief General Manager had taken steps to withdraw the all the persons engaged in production work and the evidence further shows that it is only those persons who were required to deal with the situation were in underground mine and some of the persons on top of the mine were getting ready for training in use of self rescuers. In the workings of the mine it is normal to expect on certain occasion the heating or fire would break out and in that situation management is required to deal with fire or heating that has taken place. Late Goswami, Shri P. K. Mitra and Shri J. N. Dash who are well trained in carrying on mining operations including rescue operations after withdrawing the workforce from the underground mine had only retained skeleton staff for the purpose of dealing with the fire and few of them were retained for giving training. Therefore, it would not be correct on the part of the Court of Inquiry to come to the conclusion that the managerial staff who were on the site were either negligent or careless in sending rescue teams underground or retaining workers on the surface. Therefore, the Court of Inquiry holds that there was no negligence or callousness on the part of the management for the accident that has taken place on 6th May 2010 at Anjan Hill Mine. However, the Court of Inquiry would like to point out that the above observation made by the Court of Inquiry should not be understood that at all times the decision taken by the management to send rescue team to underground mine should be considered as prudent and bonafide and managerial staff will not be held responsible. Therefore, while the Court of Inquiry has given the benefit of

doubt to the management and taken the view that decision taken to send rescue team etc could be on account of error of judgement, the same could be on many other occasions, if positive evidence is placed on record, one can take the view that management was negligent. Therefore, the Court of Inquiry would like to caution and also would like to convey to the management that top management of SECL should take every effective step and measures to protect the lives of people working in the mine to avoid any untoward incident. For this purpose, they have to strictly adhere to the provisions of the Act, Regulation & Rules framed and orders made thereunder. At all times they must act with greater commitment for the life of the workers who work in the mine and must have vision and foresight for the injury and loss that may be caused to families who lose their bread winner and also bodily injuries caused for people who survive. It is needless to point out that keeping all these things in mind elaborate provisions are made under the Act, Regulations, Rules & Byelaws framed and Orders made thereunder, checks and balances are created for the purpose of safety of the persons who work in the mines. Therefore, it is the duty of everyone to strictly comply with the provisions of the Act, Regulations, Rules & Byelaws framed and Orders made thereunder, that may be given on that behalf.

X Sending non-rescue trained persons underground:

- 7.10 It was further pointed out by workmen witnesses Smt Sarita (WW-4), Shri Akhtar Javed (WW-18), Shri Ram Kumar Kanaujia (WW-22) and Shri Mochiram Dalai (WW-30) in their evidence that it was callousness on

the part of management to send two non-rescue trained persons to underground for collecting air samples from fan drift when it was well known that the concentration of Carbon mono-oxide in the main return was 5521 ppm. The Court of Inquiry after carefully considering the evidence of witness examined on behalf of workmen and circumstances which led to the death of late Dal Bahadur who was non-rescue trained person finds considerable force in the grievances made by workmen that management was totally unjustified in sending Shri Dal Bahadur who was non-rescue trained person underground on the morning of 6th May 2010 for collecting air samples from the fan drift. The Court of Inquiry is not persuaded to accept the version of the management though late Dal Bahadur did not possess the requisite certificate for having undergone rescue training, he had sufficient experience in the work of collecting the samples and was being regularly utilised for the said work and therefore sending him for collecting air samples on that fateful day should not be considered negligence on the part of the management. The Court of Inquiry is of the view that whoever was responsible for sending late Dal Bahadur for collecting samples had committed dereliction of his / their duties. Now, the next question is which officer in the management had sent late Dal Bahadur underground for collecting samples. Evidence placed before the Court of Inquiry on behalf of workmen suggested that late Abhishek Mishra, late Dal Bahadur and late Ravindra Shah who died in the accident were not a rescue trained persons. However, from the report submitted by the management enclosing the certificates of rescue training

undergone by late Abhishek Mishra and late Ravindra Shah, it is seen that late Abhishek Mishra and late Ravindra Shah had received rescue training. The Court of Inquiry has no reason to disbelieve the records attached with the submission made by the representative of the management in this regard. Shri J. P. Mishra father of late Abhishek Mishra who was examined as WW-1 has not stated that the victim was a non-rescue trained person. Similarly, wife of late Ravindra Shah, who had filed affidavit but could not make herself available in the Court of Inquiry for cross-examination, has also not asserted in her affidavit that the victim was a non-rescue trained person. Having regard to the fact that the mine was closed for normal operations and it was felt that the underground mine environment was not safe for work, the Court of Inquiry finds that there was no justification for sending a non-rescue trained worker in the mine for the work that was not related to rescue and recovery operation. The Court of Inquiry is of the view that it was an act of negligence on the part of managerial staff who were at the site on that day. No doubt, the evidence on record shows that above mentioned late Dal Bahadur who was sent for collection of air samples was carrying Self Contained Self Rescuer, but that cannot absolve the management. The evidence adduced, though not very positive as to who had sent the said persons to collect air samples, indicates that it was late S. K. Goswami, the then General Manager (Operation), who took control of the mine after Shri S. S. Malhi (MW-11), the then Chief General Manager left the mine site at 6:00 am on 6th May 2010. Therefore, in the absence of any

positive evidence placed before the Court of Inquiry pointing out as to who was responsible for sending late Dal Bahadur for collecting air samples from underground, the Court of Inquiry finds it is not appropriate for us to come to a conclusion against late Goswami as the one who had sent late Dal Bahadur underground for collecting air samples especially when the Court of Inquiry does not have the benefit of having his version before it. However, the Court of Inquiry is of the opinion that late Dal Bahadur, who was not a rescue trained worker, died in the accident that occurred in Anjan Hill Mine on 6th May 2010 on account of negligence on the part of the management. Therefore, the Court of Inquiry considers it is appropriate to saddle the management with the liability to pay additional compensation of Rs 1 (one) lakh to the legal heirs of the victim more than the normal compensation recommended for payment to all other victims.

XI Alleged dereliction of duties by DGMS:

- 7.11 Evidence placed before the Court of Inquiry finds allegation made by workmen witnesses (WW-18 and WW-22) against DGMS is on three counts. Firstly, DGMS Officials did not point out serious contraventions of provisions of the Act, Regulations & Rules and orders made thereunder during their inspections in-spite of the fact that serious violations were easily noticeable; secondly, permission for extraction of coal by BG method was granted by the DGMS without proper scrutiny of application and verification of vital information submitted alongwith the application filed and; thirdly, DGMS Officials did not take prompt action after receiving information about

presence of high concentration of Carbon mono-oxide in the main return of the mine. However, Shri Rahul Guha who was examined as DGMSW-2 and Shri R. B. Chakraborty who argued on behalf of DGMS strongly denied these allegations as one without basis or substance.

7.11.1 While considering the grievances made against the management of SECL that it has contravened the provisions of the Act, Regulations & Rules framed and orders made thereunder, the Court of Inquiry has taken the view on the basis of evidence placed on record, that there has not been such violations. Therefore, for the same reason, the Court of Inquiry does not find any merit in the grievances made on behalf of workmen WW-18 and WW-22 that DGMS has failed to ensure the compliance of the Act, Regulations & Rules framed and orders made thereunder.

7.11.2 The Court of Inquiry is unable to accept the grievance made out by WW-18 that the permissions were granted by the DGMS without verifying the facts. The evidences of management witnesses clearly show that they had obtained opinion from CMPDI and CIMFR who are experts in the field before applying for the permission. Evidence of DGMSW-2 shows that DGMS granted the permissions on the basis of applications made by the management and since the application enclosed recommendation of experts further verification of the fact was not considered necessary by the DGMS at that stage. In this regard, DGMSW-1 stated that plans submitted with the applications for permission were certified to be correct by the Surveyor and Manager of the mine, who are competent persons to certify plans under the

Coal Mines Regulations, 1957 and therefore correctness of plans, was not in doubt and its verification was felt not necessary.

7.11.3 Evidence on record shows that Shri K. C. Paul (MW-9) had informed DGMS office over telephone on 4th May 2010 about the incidents that had taken place in Anjan Hill Mine. However, it is the case of DGMS that Shri K. C. Paul informed over the telephone the officer of DGMS that Carbon mono-oxide was detected behind the isolation stoppings of the sealed off panel A-1 and action was being taken by the management to contain the same and details of the situation were not indicated. The Court of Inquiry is unable to believe that when Shri Paul had informed about the incident that had taken place on 3rd and 4th May 2010 he would not have disclosed the details of the incident and the concerned officers of DGMS would not have bothered to find out details of the incident. In that situation, the Court of Inquiry finds considerable force in the grievance made out by WW-18 that there was failure of duty on the part of DGMS in not visiting Anjan Hill Mine immediately after the receipt of information about the incident. Section 7 of the Act extracted above shows the obligations cast on officers of DGMS. The whole object of casting responsibility on DGMS to carry out inspection, inquiry and examination of mine or part thereof was to have insight about the functioning of management of a company which carries on mining operation in a mine and to give them suitable instructions whenever some untoward incident takes place or is in the offing. In the instant case, if only the responsible officers of the DGMS had visited the spot on receipt of

information, he could have shared his experience and knowledge with the higher managerial staff of the SECL to take appropriate decision in the matter. Possibly with his experience and the authority which he could exercise, could have prevented late Goswami in taking a decision to send rescue teams to the underground and two other persons to collect air samples from underground and permitting persons to remain present on the surface near the mine mouth. May be that they did not realize from the communication received from Shri Paul over the telephone the seriousness of the incident that had taken place on 3rd and 4th May 2010 and did not visualize that such an untoward incident would take place. It is needless to point out that the obligations are put on DGMS under the Act to prevent any untoward incident taking place and protect the life of the workforce working in a mine. Therefore, the Court of Inquiry would consider that there was lapse on the part of DGMS officials in not visiting the spot after receipt of the information about the incident. The obligation is cast on the management of mining company or operator to keep DGMS informed about any untoward incident immediately so that the company can also share the experience and knowledge and guidance of DGMS. No doubt, the material placed on record shows that DGMS office has only skeleton staff. But it is no answer for the lapse. DGMS is an authority created under the Act and entrusted with the responsibility to supervise and make regular inspection of the mine and give appropriate direction to the person in-charge of mine to protect the interest of workmen who work in the mine. Under these circumstances, the Court of

Inquiry is constrained to point out that it is the duty of the concerned who is heading the organization to bring to the notice of the Government of India and concerned authorities to sanction sufficient staff to make the functioning of DGMS very effective and meaningful.

XII Observation of the Expert Committee of Coal India Ltd:

7.12 It is on record that management of M/s Coal India Ltd, a holding company of SECL had formed an inquiry committee comprising of experts, namely Shri B. C. Bhowmick, Former Scientist-G, CIMFR, Dhanbad; Professor D. C. Panigrahi, I.S.M. University, Dhanbad; Professor N. C. Karmakar, BHU-IT, Varanasi; and Professor V. S. Shastry, I. I. T. Kharagpur. The said inquiry committee submitted an interim report in August 2010. The Committee, after elaborate discussion and on the basis of evidences collected by them, at para 9 of their report has observed as follows:

“This (Firedamp explosion caused by spontaneous heating) may be a possibility, which can be confirmed after reopening of the mine....Thus at this juncture of time, with the available data and circumstantial evidences and statement of eye witnesses it is not possible to arrive at a definite conclusion about the exact nature of the explosion and its genesis..... The veracity of this (Bush fire) theory can, however, be established only after the assessment of travel path of explosion which must await till the mine is reopened and inspected critically before any significant disturbance of evidence left by the explosion”

7.12.1 The observation of the inquiry committee referred to above indicates that it was not possible for the said committee to arrive at a definite conclusion with respect to the causes and circumstances attending the accident till reopening of the mine. DGMSW-1 has also submitted in his affidavit that he could not conclude the statutory inquiry because entries to the mine were sealed. In our view, the re-opening of mine may give some insight regarding seat of explosion and path travelled by the shock wave. Witnesses examined on behalf of workmen and on behalf of DGMS have stated that the cause of accident was coal dust explosion which was initiated by low intensity methane explosion. But there is no unanimity on the source or place where low intensity methane explosions occurred. However, disagreeing with the assertion of representatives of the workmen, representatives of the management have submitted that exact cause and nature of the accident can be known only after further scientific investigation.

7.12.2 Though divergent views were expressed on the question as to the cause of accident by the witnesses examined on behalf of workmen and management before the expert Committee constituted by Coal India Ltd and also by DGMS, the Court of Inquiry proceeded to examine the said question independently and recorded its findings on various issues that had cropped up for its consideration being raised for the cause of accident on the basis of evidence placed before it.

7.13 The Court of Inquiry finds it desirable to set out what is meant by spontaneous heating leading to fire, methane & coal dust explosion and

airblast that prevailed in Anjan Hill Mine during the period from 3rd May to 6th May 2010.

Spontaneous Heating of Coal, Fire, Explosion and Air Blast:

- 7.13.1 Oxygen in air oxidises coal and the chemical process involved generated heat. Rate of oxidation increases with rise in temperature and consequently more heat is generated. The phenomenon of heating of coal is known as spontaneous heating. An adequately ventilated area would cause the air current to dissipate the heat and lower the rate of reaction whereas sluggish ventilation in the mine would result in fastening the heating process ultimately leading to initiation of combustion. The rate of oxygen consumption is extremely high during first few days (particularly the first few hours) following the exposure of a fresh coal surface to the atmosphere. It then decreases very slowly without causing problems unless generated heat is allowed to accumulate in environment. At low temperatures carbon monoxide is formed and adsorbed Methane (CH₄) in coal is released. With the rise in temperature, Coal distillation begins producing Methane as the first distillate. With further rise in temperature, higher hydro-carbons get synthesized and moisture present in coal breaks down to produce Hydrogen.
- 7.13.2 So far as Anjan Hill Mine is concerned, the inquiry committee of experts constituted by Coal India Ltd has found that coal of Seam-III was highly susceptible to spontaneous heating. It is necessary to point out that workings on the peripheral area of the mine may be having sluggish ventilation and air was entering the workings through surface cracks. Most

of the surface area above the underground working fell under dense forest and hence broadly inaccessible for monitoring and covering surface cracks if any. Presence of Carbon mono-oxide in higher quantities behind the sealed off Panel A1 area in Anjan Hill Mine indicated that spontaneous heating of coal had begun since long.

7.13.3 Rate of oxidation of coal was dependent on coal quality and ambient temperature and distillation of coal can give rise to adequate quantity of methane and other hydrocarbons which in turn act as fuel for the explosion. Methane is inflammable and when concentration of methane in air is between 5% and 15% it becomes explosive. Similarly, other gas mixtures formed during coal mine fire in certain proportions are explosive. A typical combination of gases, also produced commercially as fuel and known as Producer Gas, in the proportion of roughly 10% Carbon di-oxide, 15% Carbon mono-oxide, 74% Nitrogen and up to 1% of other gases like Methane etc is explosive in nature. This gas is very poisonous also due to its Carbon mono-oxide content. Analysis of air sample taken from the main return of Anjan Hill Mine on 5th May 2010 indicates that abovesaid gases were present and build up of such gases could have led to explosive mixture. Presence of Hydrogen in air sample from Anjan Hill Mine indicated that spontaneous heating had aggravated and high temperature distillation has commenced in the mine and therefore, it could be inferred that fire had broken out somewhere in the mine.

7.13.4 An explosion requires fuel, oxygen and source of ignition. Explosion in an underground coal mine can be caused by methane and coal dust. In most cases both methane and coal dust take part in explosion. Even a feeble source of ignition is capable of exploding the methane-air mixture or methane-Carbon mono oxide-air mixture. Fine coal dust particles assist in propagation of explosion along the gallery. A coal dust explosion can generate sufficient air pressure to disperse coal dust from surface and draw it into an expanding combustion zone. Coal dust explosion may develop if these factors occur simultaneously:

- a. Sufficient oxygen to sustain combustion;
- b. Dust of a composition which is capable of sustaining an explosion;
- c. A means of raising sufficient of the dust into the air; and
- d. A means of igniting the dust.

7.13.5 Some sort of substantial shock wave is usually needed to raise dust cloud into the air before its explosion. Methane ignitions are capable, not only of raising dust, but simultaneously igniting it. That is why they have been by far the main initiators of dust explosions throughout the history of coal mining. Direct ignitions of coal dust are possible but highly unlikely. Shock wave of explosion travels faster than sound, so it is not possible to hear it coming. During coal dust explosion, the dust concentration makes the air literally choking to breathe. Wind speeds range from 30 m/s to 450 m/s (108 km/h to 1,600 km/h) for weak to fairly strong explosions. At these wind speeds heavy equipments are overturned, wheeled equipments moved and

anything loose becomes a missile and it is all in the dark because of the thick dust. The distance between the shock wave and the flame front increases as the explosion travels further because shock wave travels considerably faster than the flame. A weak explosion may also propagate without gaining in intensity. Three subsequent small blasts in Anjan Hill Mine on 5th May 2010 could be weak explosions.

7.13.6 Airblast is capable of raising dust cloud in roadways. It is often seen that smaller or larger areas of unsupported roof during depillaring operation by caving method may not collapse as desired and at regular intervals. Due to collapse of such area, all of sudden, a large volume of air gets displaced and gusts out through galleries, raising coal dust cloud and causing damages to anything which came in the way of forceful air current. Substantial damages to plant and machineries installed in the mine and injuries sometimes leading to death of persons coming in the way of shock wave may be expected if due precautions are not taken in a depillaring panel. Accidents involving death of workmen in the mine due to airblast is not uncommon in India. Long standing coal pillars are bound to yield as side spalling reduces its dimension and thereby reducing load bearing capacity of such pillars. Similarly, spontaneous heating and fire in old working area ultimately leads to reduction of load bearing capacity of pillars on fire. Dust cloud raised by the gust of air during airblast occurring in the area where spontaneous heating had begun since long or fire exists, may contain hot coal dust.

XIII Inadequacy of compensation and other facilities

- 8.0 The Court of Inquiry will now proceed to consider the allegations of the victim and their relatives with regard to inadequacies of compensation and other facilities provided to them by the management and thereafter it will consider the failure of the management to comply with the provisions of the Act, Regulations & Rules framed and Orders made thereunder.
- 8.1 Shri Jagdish Prasad Mishra, who was examined as WW-1 has submitted in his affidavit marked as Exhibit W-1 that his 30 year old son died in the mine accident due to the fault of management. He has stated that his son was an inexperienced trainee in the mine and was sent underground without oxygen mask making him as a captain of a team for repairing a stopping. He has also stated that his daughter-in-law Shrimati Kirti Mishra received a sum of Rs 10,29,971/- (ten lakh twenty nine thousand nine hundred and seventy one) towards compensation. It is his submission that the compensation paid was not adequate and not in accordance with guidelines and regulations applicable to government of India employees. Shri U. W. Datey did not cross examine him.
- 8.1.1 In support of his claim that legal heirs of his son should be paid another sum of Rs 15 lakhs as compensation in addition to the payment already made, he has relied upon Central Civil Service (CCS) Pension Rules wherein it is provided for ex-gratia compensation to Central Civil Service employees who die in harness. It is useful to extract clause (d) of the said rule which reads as follows:

[Swamy's compilation of CCS Extraordinary Pension Rules]

Ex-gratia lumpsum compensation to families of Central Government Civilian employees who die in harness

The families of Central Government Civilian employees who die in harness in the performance of their bonafide official duties under various circumstances, shall be paid the following ex-gratia lumpsum compensation:

- (a) Death occurring due to accidents in the course of
Performance of duties. Rs. 10 lakhs
- (b) Death occurring in the course of performance of duties
attributable to acts of violence by terrorists, anti-social
elements, etc. Rs. 10 lakhs
- (c) Death occurring during (i) enemy action in international
War or border skirmishes and (ii) action against militants,
terrorists, extremists etc. Rs. 15 lakhs
- (d) Death occurring while on duty in the specified high
altitude, inaccessible border posts, etc., on account of
natural disasters, extreme weather conditions. Rs. 15 lakhs

8.1.2 According to him, clause (d) of CCS Pension Rules cited above covers the case of his son and as such legal heirs of his son are entitled to be paid Rs 15 lakh as ex-gratia compensation.

8.1.3 It is not in dispute that SECL has paid a sum of Rs 5 lakhs on its own ex-gratia compensation to the legal heirs of persons who died in the accident. Now, the question is whether the legal heirs of Late Avinash Mishra are entitled for payment of ex-gratia compensation of Rs 15 lakhs as claimed by

Shri J. P. Mishra in the light of CCS Pension Rules even when the employee had died where there was no negligence or laches on the part of the management of SECL. Shri S. K. Pandey, Shri N. L. Pandey, Shri Akhtar Javed Usmani, Shri Lakshman Chandra and Shri Bajrangi Shahi appearing on behalf of workmen also submitted that award of ex-gratia compensation by the management needs considerable enhancement. They made a request to the Court of Inquiry to recommend for award of compensation of at least Rs 15 lakhs in cases where negligence is not proved and in cases where negligence is proved for award of higher compensation depending upon the gravity of the negligence on the part of the management.

8.1.4 SECL is a Government of India company and a subsidiary of Coal India Ltd. Therefore, strictly speaking, the guidelines issued /rules framed by Government of India for award of ex-gratia compensation relied upon by WW-1 will not apply so far as SECL is concerned. However, the amount of ex-gratia compensation indicated by Government of India to its civil employees in the circumstances referred above in clause (d) can, to a large extent, be taken as guideline for determination of compensation to be payable to the legal heirs of such of those persons including son of WW-1 who died in the accident that occurred at Anjan Hill Mine on 6th May 2010. There cannot be any doubt that workers who work in an underground mine work under serious hazardous conditions. Their life is exposed to danger. Any moment, on account of, on many occasions beyond the control of anyone or on some occasions, on account of the negligence on the part of

management in taking sufficient protection in protecting the workers working in the mines, the worker may die in an accident while working in the mine. The labour force who work in the mines are generally less qualified and belong to working class who would not have anything to fall back, if the bread winner of the family dies. It is common knowledge that many a times young widows and children of victims have to face innumerable problems. Evidence on record shows that SECL management paid an ex-gratia payment of Rs 5 lakhs to the legal heirs of each of the deceased employee in addition to sum of Rs 4,39,000/- awarded by Workmen Compensation Commissioner. While the Court of Inquiry appreciates the stand taken by SECL management in paying Rs 5 lakh as ex-gratia compensation in addition to the compensation awarded by Workmen's Compensation Commissioner, the only question that arises for consideration is whether the quantum of ex-gratia payment already made is reasonable and whether a recommendation is required to be made for its enhancement? Taking in to account several factors including the conditions under which workmen work in the underground mine, timing of work, their family background etc; the Court of Inquiry is of the opinion that it would be fair and reasonable to make a recommendation for award of ex-gratia compensation of Rs 12 lakhs (twelve lakhs) to the legal heirs of all the employees of SECL who died in the accident, in addition to compensation awarded by the Workmen's Compensation Commissioner. Since an amount of Rs 5 lakh has already been paid, the Court of Inquiry recommends SECL

to pay another sum of Rs 7 lakhs (seven lakhs). While fixing the additional amount of Rs 7 lakhs, the Court of Inquiry has also taken in to account that dependent of victim of accident are provided with employment by SECL. The Court of Inquiry is also of the view that the amount to be paid by SECL to the legal heirs of the victims of the accident is required to be fully protected and are not deprived off the same on account of their ignorance, illiteracy etc. Therefore, it is necessary to recommend to SECL to invest the said amount by way of fixed deposit in a nationalized bank for a minimum period of 5 years from the date of deposit in the joint name of all legal heirs of the deceased employees. However, the interest that would accrue on the said deposit may be made payable to the legal heirs of victims. The Court of Inquiry would also recommend to SECL to release the said amount earlier than five years in the event of urgent need of the amount on account of marriage / higher education of the children of the victim of the accident or for purchase of residential accommodation. The Court of Inquiry recommends that such deposit may be made by SECL within 4 weeks of publication of this report.

8.1.5 Further, the evidence on record shows that one late Nirmal Kumar, who was hired by the management from one late Ujjwal Das who was a labour contractor also had died in the accident while he was working on the surface on the morning of 6th May. In the facts and circumstances, the Court of Inquiry is of the opinion that without going into details of the question whether he had become an employee of SECL though hired through

contractor, it is fair, just and reasonable to treat him in par with the employees of SECL who died in the accident and recommends to SECL to give all the benefits to the legal heirs of late Nirmal Kumar which are extended to legal heirs of deceased employees of SECL [ie. ex-gratia compensation of Rs 12 lakhs, extension of medical facilities to the families and compassionate employment]. The compensation to be paid to his legal heirs is also required to be invested as in the case of legal heirs of deceased employees of SECL.

- 8.2 Shrimati Reeta Das, wife of one late Ujjwal Das who was examined as WW-2 stated that one late Nirmal Kumar, who used to work under employment of her husband, went for work in the mine on the day of accident without getting his attendance marked in statutory register, without getting a cap lamp issued and without the knowledge of her husband. In course of employment, he became a victim of the accident and died. SECL Management, who is the "Principal Employer" paid ex-gratia compensation of Rs.4,39,000/- to the legal heirs of late Nirmal Kumar but subsequently called upon late Ujjwal Das to pay the above amount through the letter no. SECL/519 dated 17/06/10. Further, the amount which was available with the SECL to the credit of said late Ujjwal Das in respect of work executed by him was stopped. It is her case that due to the financial burden and mental torture inflicted by the management, her husband suffered heart attack to which he succumbed. She has stated that the management of SECL was the Principal Employer of the all worker who work in mine and by employing a

contractor to secure the services of labourers, the management cannot escape its liability. Representative of the management did not cross examine Smt. Reeta Das.

8.2.1 The substance of evidence of Smt. Reeta Das, wife of late Ujjwal Das is that her husband used to supply workers to the SECL management to work in the mines of SECL. According to her, the workmen supplied by him were working for the management. In the facts and circumstances of the case, the Court of Inquiry is inclined to take the view that there was a relationship of master and servant created between such a worker and the management of SECL. Therefore, the SECL which had paid compensation of Rs 4,39,000/- to the legal heirs of late Nirmal Kumar pursuant to the award passed by the Workmen's Compensation Commissioner, is not entitled for reimbursement or adjustment of the amount payable to the contractor, late Ujjwal Das.

8.2.2 So far as her grievance against SECL is concerned, as noticed earlier, are two folds. Firstly, a sum of Rs 4,39,000/- deposited by SECL before compensation commissioner as compensation towards the death of late Nirmal Kumar cannot be recovered out of the amount payable by it to her late husband. Secondly, her husband died on account of shock/heart attack as management of SECL unjustifiably claimed reimbursement of amount stated above from him.

8.2.3 The Court of Inquiry finds that the first grievance of Smt. Reeta Das is justified. Her evidence referred to above clearly shows that for all practical purposes SECL had treated late Nirmal Kumar as an employee of SECL

despite the fact that he was sponsored for work by late Ujjwal Das as a contractor. It is her statement that on the date of accident, late Nirmal Kumar went for work without getting his attendance marked in statutory register, without getting a cap lamp issued in his name and without the knowledge of her late husband. In the course of employment, late Nirmal Kumar became victim of accident. As stated above, her evidence has gone unchallenged. Under these circumstances, the Court of Inquiry is of the view that SECL was unjustified in making a claim for reimbursement of Rs 4,39,000/- deposited by it before the compensation commissioner for payment of compensation to the legal heirs of late Nirmal Kumar; and on that account withholding payment of the amount due to late Ujjwal Das in respect of work executed by him. Therefore, keeping in mind the circumstances in which Smt. Reeta Das is placed on account of her husband's death at an early age and withholding the payment, the Court of Inquiry recommends to the management of SECL to release entire amount payable to late Ujjwal Das to Smt. Reeta Das and her children. Further, since the bill amount payable to late Ujjwal Das was withheld for considerable time, in the interest of justice, the Court of Inquiry recommends SECL to pay the amount due to late Ujjwal Das alongwith interest @ 12% per annum and an additional sum of Rs 50,000/- for all the mental agony and suffering she had to undergo for not able to receive the amount due to her husband on time. The Court of Inquiry also recommends SECL to pay the said amount within two weeks of publication of the report failing which SECL shall pay an

interest @18% per annum on the amount due to late Ujjwal Das in respect of work carried out by him as contractor and also on Rs 50,000/-

8.2.4 So far as her grievance that her husband died due to shock and mental agony, the Court of Inquiry does not find any substance in the said claim.

The Court of Inquiry is of the clear opinion that his death is in no way can be attributed or connected with reimbursement of the amount, accordingly this grievance is rejected as one without merit.

8.3 Shri Siruvari Avinash, who was examined as WW-5 has submitted in his affidavit marked as Exhibit W-7 that his father late S. V. R. Raju was a rescue trained person of repute and had won several awards in rescue competitions. His grievance against SECL is three folds:

(a) Ex-gratia payment of Rs 5 lakhs is less,

(b) Employment offered to him by SECL did not commensurate with his qualification, and

(c) Medical benefits enjoyed by his mother and her children while his father was alive, was discontinued.

8.3.1 It is his grievance that ex-gratia compensation of Rs 5 lakhs paid to the dependent of employee losing his life in a mine accident is too less and it should be atleast Rs 20 lakhs. While considering the claim of Shri J. P. Mishra (WW-1) and submissions made by Shri N. L. Pandey and others representing trade unions on the quantum of compensation, the Court of Inquiry has already made recommendation for award of total compensation of Rs 12 lakhs. Therefore, it is unnecessary to deal with it here.

8.3.2 Shri Avinash (WW-5), in his evidence, has stated that though he is an engineering graduate in Information Technology, he has been given employment as General Mazdoor Category-I on account of death of his father on compassionate ground. He has also stated that the employment provided to him should commensurate with his education. He has further stated in his evidence before the Court of Inquiry that Coal India Ltd (CIL) is a holding company of SECL and has advertised the post of Management Trainee (System) and he is fully qualified for the said post. He has also stated that CIL makes appointment for various positions for its subsidiaries like SECL. He submitted that since his father died in the incident that occurred in Anjan Hill Mine on 6th May 2010, he must be appointed to the post of Management Trainee (System) as there is a vacancy. On behalf of the management he was not cross-examined. Now the question is whether in case of WW-5, who is holding Bachelor of Engineering Degree, any recommendation is required to be made to consider him for employment to any of the post in CIL to which he possesses requisite qualification? It is well settled that any government organisation or the government, relieves the family of victims of its hardship and financial distress on account of death of its employee by providing compassionate appointment to his legal heirs. Rules framed by SECL provide for employment on the ground of compassion, if the employee dies in harness. However, the compassionate employment offered is only as Category-I General Mazdoor. The father of Shri S. Avinash (WW-5) died in a mine accident. Therefore, distinction is

required to be made between an employee who dies in the course of employment while doing his normal duty like driving a vehicle or some other work which is not seriously hazardous or dies in normal course while he continues to be an employee of SECL and an employee who dies in the course of employment while working in an underground mine or an employee who died in the course of performing life threatening work of rescuing the mine. The material placed before the Court of Inquiry indicates that late S. V. R. Raju was a member of rescue team-B and four out of six members of team-B died and two of them returned back unhurt. Affidavit of Shri Avinash (WW-5) establishes that his father late S. V. R. Raju had won several prizes and awards in the company level and national level rescue competitions. In this situation the Court of Inquiry is of the view that it is desirable to accommodate the dependent of an employee who dies in the course of employment while discharging very hazardous work in an accident not attributable to the act of deceased or even for that matter not attributable to negligence on the part of the management, to a post commensurate with his / her qualification, if dependent of such person is reasonably suitable to the said post. If CIL has to make a selection of the candidate as per the policy and guidelines of SECL or CIL and till that is done, dependent of the deceased in the circumstances stated above could be appointed to the post available in SECL and thereafter his case could be considered by CIL. Normally, dependent of an employee should be given preference unless the dependent is totally unsuitable for the post. If what

has been indicated above is accepted as a policy by SECL management, the Court of Inquiry is of the opinion that it will create a lot of goodwill among its employees which ultimately will help the SECL to improve its working conditions and quality of work by its employees. The employees of SECL, who work in hazardous conditions and their families will have to be taken care of, especially when they are facing serious hardship on account of loss of life of the bread-winner of the family or serious disability. These are the matters on which SECL management, which is in better position to appreciate and understand the problems of its employees, must consider with little sympathy and compassion. It may be open for Coal India Ltd to lay down policy or guidelines for appointment on compassionate grounds in case of death of its employee while actually working in hazardous conditions.

8.3.3 However, so far as the claim of Shri S. Avinash son of late S. V. R. Raju is concerned, the Court of Inquiry recommends SECL to provide him an employment in SECL commensurate with his qualification. It is also relevant to point out that one Smt. Ranjana Yadav wife of late Santosh Kumar Yadav has also made a request in her affidavit dated 13.04.2011 to provide her employment commensurate with her qualification. However, she had not made herself available for cross-examination. Material on record shows that at the time of death of her husband, she was carrying and she gave birth to male child after the death of her husband. Under these circumstances, though she has already been given appointment on compassionate ground as Category-I mazdoor, the Court of Inquiry recommends SECL to consider

her case in the light of what has been stated in the case of Shri S. Avinash above.

- 8.3.4 Further, WW-5, Shri S. Avinash has stated in his evidence that his mother Smt. Padma was enjoying medical benefits when his father was in service and it has been discontinued after death of his father on the ground that his mother gets a sum of Rs 4000/- per month as family pension and as per SECL rules, medical facility can be extended to those families whose family pension does not exceed Rs 1500/- per month. It is his case that his mother is not keeping good health and she requires constant medical facility and though he is given employment by SECL on the compassionate ground after the death of his father, his mother is deprived of the medical facility.
- 8.3.5 Similar grievance is made with regard to medical facilities not being extended to the wife and dependent children of the deceased employees by Shri Akhtar Ali (WW-6) and Smt. Ranmatia Bai (WW-8) on the ground pensionary benefits the wife of the said deceased employees get is more than 1500/- per month.
- 8.3.6 Shri N. L. Pandey, representing HMS union strongly submitted that the rules of SECL which denies medical benefit to the wife and dependent children of the deceased on the ground that the wife of the deceased employee gets more than Rs 1500/- per month is highly unreasonable and arbitrary and the same results in serious hardship to the family of victim of accident who die in the course of employment while working in a mine which is hazardous in nature. In the accident that occurred on 6th May 2010 at Anjan Hill Mine, 14

persons had died and wives of each one of them would get more than Rs 1500/-per month as pensionary benefits. It is the contention of the dependents of victims who died in the accident that pension is being earned by the victim of the accident and merely because pensionary benefits the wife gets is more than Rs 1500/- the wife and dependent children cannot be deprived of the benefit of medical facility even when their dependent children are given employment. It is their further case that the limit of Rs 1500/- was fixed long back and since then the money value has gone down considerably. It was suggested under these circumstances, the Court of Inquiry should make a recommendation to the SECL not to fix any limitation with regard to pensionary benefits the wife of the deceased employee gets for the purpose of extension of medical facilities to the wife and dependent children of victim who dies in course of employment in the mine.

8.3.7 The Court of Inquiry has given anxious consideration to the grievances made by wives of victims who died in the accident and also the submissions made by representatives of various trade unions referred to above. It is true that sum of Rs 1500/- was fixed as limit to deny medical facility few years back. Material placed on record discloses that every family who gets pensionary benefit on the death of an employee is generally more than Rs 1500/-. While considering the extension of medical facility to the wives and dependent children of victims who dies in an accident during actually working in the mine, it is necessary to differentiate it from the death of an employee dying in harness. Working in an underground mine is hazardous therefore, if an

employee dies while actually working in a mine in an accident the claim of the legal heirs of such an employee required to be considered differently from the claim of legal heir of an employee who die in harness in normal course while in the course of employment or otherwise. The Court of Inquiry is of the view that if an employee is killed while actually working in the mine, even if there is no negligence on part of management, it is desirable to provide medical facilities to the wife and dependent children of such an employee even if an employment is offered to one of the legal heirs of such an employee.

8.4 In the incident in question as many as 39 persons were injured and one out of them namely Shri Gulam Mohammad has become permanently unfit to carry out any work. In this context, it is useful to refer to the affidavit of one Shri Akhtar Ali who is the brother-in-law of one Shri Gulam Mohammad. In his affidavit he has stated that Shri Gulam Mohammad has suffered permanent disability and has virtually turned vegetable, unable to move and confined to bed and he needs an attendant to attend on him for his day to day needs. The Court of Inquiry is of the opinion that wherever an employee has suffered permanent disability of very serious nature totally immobilizing such an employee and making him to confine himself to bed round the clock and thereby making him totally unsuitable to be retained in the service of SECL or secure any employment elsewhere, the cases of such an employee must be treated in par with or similar to the case of employee who had died in the accident and he and his family members must be provided all the

benefits / facilities which the Court of Inquiry has recommended to the legal heirs of a deceased employee [ie. ex-gratia compensation, extension of medical facilities to the families and compassionate employment].

8.4.1 The Court of Inquiry finds it appropriate to point out that the suffering of the family of an employee who has virtually turned vegetable, unable to move and confined to bed is much more than the family of the deceased employee as constant care of such an employee is required to be taken by the family members and they are also required to incur extra expenditure for his day to day care and suffer mental agony on daily basis. Therefore, the Court of Inquiry recommends SECL to give all the facilities to Shri Gulam Mohammad and his family members that is to be extended to the family of deceased employee.

8.4.2 Material placed before us indicate that there are other injured persons who were hospitalized ranging from 5 days to 90 days and after recovery, they have reported to duty. However, one Shri Prakash (WW-19) has not fully recovered and requested for declaring him unfit for the job so that his son could get employment in his place. Shri Ansar (WW-10) and Shri Lal Babu (WW-36), who have reported for duty after being discharged from hospital, have submitted that since their physical condition does not permit them to do hard work in underground mine, the management should have provided them light work.

8.4.3 Though relatives of victims who died in the accident have claimed higher compensation than the one already paid by SECL, none of the injured has

made any claim for compensation, though they were not paid any amount by way of compensation. However, Sri N. L. Pandey, appearing on behalf workmen submitted that injured should also be awarded some compensation as they have to meet additional expenditure during their treatment.

8.4.4 As noticed earlier, the Court of Inquiry has recommended in all payment of sum of Rs 12 lakhs by way of compensation to legal heirs of deceased employee. The injured employees were in patient for a period ranging from 5 days to 90 days. Though medical facilities are provided by the management, it cannot be disputed that during the period of treatment the injured employees and their families had to undergo hardship both mental and financial. It also cannot be disputed that they are required to incur additional expenditure during the time of treatment. The Court of Inquiry can take judicial notice on this aspect, though positive evidence is not placed by the victims before the Court of Inquiry. Under these circumstances, the Court of Inquiry is of the view that since injured persons suffered from injuries and they were hospitalised for number of days, it is fair and reasonable to award some reasonable compensation to each of the victims by taking into account the nature and gravity of injuries and number of days they were both in-patient and under treatment at home on account of injuries sustained. The compensation that could be awarded to each of the victim may vary from Rs 30,000/- to Rs 3 lakhs based on the recommendation of a committee to be setup by the management of SECL for the said purpose. A qualified doctor may be included as a member of the

committee so that the committee will have the assistance of the doctor while determining the quantum of compensation. Further, in case of victims who have sustained injuries in the accident, having regard to the nature of injuries sustained by them if they need to be given light work, it is open to such employees to give representation to SECL and in such cases the management on the basis of the report that may be given by the doctor take appropriate decision.

Conclusion:

- 9.0 (a) In the light of what has been discussed above, the Court of Inquiry is of the opinion that the incidents that occurred in Anjan Hill Mine from 3rd May 2010 which ultimately led to the accident on 6th May 2010 causing death of fourteen persons and causing serious injury to five and minor injury to twenty six persons cannot be attributable to the negligence on the part of SECL management. The Court of Inquiry, on the basis of evidence on record is of the view that the accident in question had taken place beyond the control of the management and it could be on account of error of judgment on the part of the managerial staff more particularly late S. K. Goswami who was on the site on the morning of 6th May 2010 and therefore the Court of Inquiry is inclined to take the view that the benefit of doubt is required to be extended to all the concerned managerial staff who were present on site on the morning of 6th May 2010.

- (b) However, the Court of Inquiry would like to place it on record that the findings recorded by it in the facts and circumstances of the case should not be taken for granted or assumed by the management / DGMS that in every accident the management / DGMS will have the liberty or the passport to come forward with the defense that the accident has taken place on account of the circumstances beyond their control. The Act imposes responsibilities, duties and obligations on various officials like owner, agent, deemed agent, manager and assistant managers to take effective and sufficient care for protecting interest of the workmen. Life and liberty is one of the precious rights guaranteed under Article 21 of the Constitution of India to every person. Large number of labour legislations have been passed by the Government of India to protect the interest of the labour force. When the Act, Regulations & Rules framed thereunder cast certain duties, responsibilities and obligations to take sufficient precautions by the management to protect the interest of the persons who work in the mines, it is impermissible for the persons in-charge of mining operations not to realise the object and spirit behind the legislations and discharge their duties in furtherance of the object of the legislations.
- (c) It is also necessary to point out that it is no answer for the management to state that on account of procedural difficulties they could not procure necessary materials, equipments, plants and

machineries on time which were required for safety of workmen who work in the mine.

- (d) It is also the duty of DGMS, an authority created under the Act and entrusted with the responsibility to supervise and make regular inspection of the mines and give appropriate direction to the persons in-charge of mines to protect the interest of workmen who work in the mines and also to ensure that the mining operators strictly comply with the provisions of the Act, Regulations and Rules framed thereunder and orders made on that behalf from time to time.
- (e) Any violation of the provisions of the Act, Regulations and Rules or any dereliction of duties by the persons in-charge of mining operations / DGMS are required to be viewed very seriously and dealt with firmly by the higher authorities.

Recommendations:

- 10.0 In the light of what has been stated above, the Court of Inquiry deems it appropriate to make the recommendations mentioned hereinbelow with a view that their implementation may avert accidents of similar nature in future and make working in the mines safer.
- 10.1 Inaccuracy of mine plan:
 - (a) SECL and DGMS shall conduct an enquiry with regard to inaccuracy of the two survey reports (ie conflicting reports) made by SECL with reference to the depth of cover above Seam-III in Anjan Hill Mine and take appropriate action in the matter (Refer Para 7.2.1 above).

- (b) DGMS shall find out under what circumstances it overlooked the result of re-survey of Anjan Hill Mine conducted by the SECL (Refer Para 7.2.1 above).

10.2 Safety items to be made available:

- (a) The SECL management shall procure, store and provide safety items and make available at all times all the facilities to protect the interest of workmen who work in the mine (Refer Para 7.6 above);
- (b) DGMS shall inspect mines and check up whether the management has procured necessary materials and equipment and made them available at the mines that are required to protect the interest of the workmen who work in the mine (Ref Para 7.6 above);
- (c) DGMS shall ensure that the mining operators strictly comply with the provisions of the Act, Regulations, Rules and orders made thereunder by inspecting the mines at regular intervals and recording its detailed observations as required by the regulations.

10.3 Flushing the goaf with Nitrogen / Carbon di-oxide:

In the event of Anjan Hill Mine being made operational and even in other mines where such conditions are prescribed, the management shall take necessary steps well in advance for flushing the goaf with Nitrogen / Carbon di-oxide (Refer Para 7.1.4 above).

10.4 Forest clearance:

In the event of Anjan Hill Mine being made operational and in all similar cases, the management shall obtain approval from the Government of India

for diversion of forest land, lying within the lease-hold boundary of the mine, for non-forest use before commencement of mining operations (Refer Para 7.7.1 above).

10.5 Effective Management Information System:

Every mine management shall introduce effective information system for communicating useful information to higher authorities and all the concerned authorities / officers/ persons without any delay so that decision makers are able to draw strategies for dealing with situations in the mines immediately.

10.6 Tele-monitoring system for monitoring the mine environment in all underground coal mines:

Every underground coal mine shall introduce tele-monitoring system for monitoring the mine environment so that problems related to mine gases are predicted well in advance for initiation of corrective measures. In this regard, experts believe that a combination system of gas monitoring based on sensors, tube bundle systems and gas chromatography has the best chance of combating emergencies involving mine gases.

10.7 Continuing programme / training of persons holding key positions:

(a) The sequence of events and actions taken by experienced officers at the helm of affairs and their inability to visualise the pace of impending disaster raise serious doubts on their understanding of the problem. There is an urgent need for implementing a system for refreshing and updating technical skills of officers, staff and workmen through compulsory mid-career level training keeping in view the need of such

technical knowledge and competence required for meeting the objective of the company and also the national vision since the company in question is a public sector undertaking of the Government of India.

(b) Even in respect of private sector companies / mining operators, similar programme may be insisted upon, if necessary, by framing necessary regulations and by strengthening the existing rules and also issuing necessary guidelines / orders on that behalf from time to time and ensuring the compliance of the same.

(c) Necessary programme shall be organized to impress upon the workers the need of wearing personal protective equipments including rescue apparatus while on job and the risk they may have to face for their failure to adhere to the instructions in the matter of wearing such equipments. This recommendation has been made in the back drop of evidence that there is resistance on the part of workmen to wear self rescuers.

10.8 Protocol / guidelines for rescue operations:

There does not seem to be clear cut guideline / instruction as to the circumstances under which even the rescue team should be withdrawn from underground mine and at what stage the rescue team could be sent to underground when mining operation is suspended. From the material which has come on record, it appears that entire discretion is left on the officer who is in-charge of the site. In the instant case, evidence indicates that late S. K. Goswami took decision to send rescue teams to the underground mine

and send persons to collect air samples from the underground mine on the morning of 6th May 2010. In this background, the Court of Inquiry is of the opinion that it is appropriate to recommend for developing well informed guidelines / instructions after thorough study regarding various aspects of mining operations and anticipated hazards.

10.9 Design and construction of stoppings:

The evidences of Shri D. K. Mallick (including his interim report) indicates that the stoppings, both isolation and ventilation, in underground workings of Anjan Hill Mine got destroyed by explosion. This raises a serious question about the design and maintenance of stoppings. Therefore, the Court of Inquiry recommends that DGMS in association with mine operators shall constitute appropriate committees involving scientists and technology experts in arriving at a suitable design and take necessary steps for its implementation.

10.10 Responsibility of DGMS:

DGMS is an authority created under the Act and entrusted with the responsibility to make regular inspection of the mine and give appropriate direction to the person in-charge of mine to protect the interest of workmen who work in the mine. The materials placed before the Court of Inquiry shows that there are around 288 listed mines in Bilaspur region and they are to be supervised by two officers of DGMS. It appears that there are around 8000 listed mines and only 117 inspecting officers who are authorized under the Act to inspect the mines spread over in almost every district of the

country and give necessary instructions to mine operators. Therefore, it is clear that for want of sufficient manpower DGMS is not able to carry out the duties and responsibilities entrusted to it under the Mines Act. When the Act casts certain obligations and duties on DGMS, it is the duty of the government to fill up all existing vacancies and create new posts, if found necessary to enable the DGMS to effectively discharge its duties. It is also the duty of the officer heading the DGMS to bring to the notice of the authorities of the Government about the problems being faced by DGMS for want of sufficient staff and the consequences that may flow and the adverse effect it may have, if DGMS is not been able to regularly inspect mining operations in the country.

10.10.1 Therefore the Court of Inquiry recommends to the concerned authority to immediately take steps to strengthen DGMS with necessary manpower so that it may, at regular intervals, inspect the mines and ensure compliance of the provisions of the Act by the mining operators.

10.11 Recommendations regarding labour welfare:

10.11.1 (a) Award of ex-gratia compensation of Rs 12 lakhs to the legal heirs of all workmen who died in the accident on 6th May 2010 accident and who were employees of SECL. Since a sum of Rs 5 lakhs has already been paid as ex-gratia compensation by SECL, the Court of Inquiry recommends SECL to pay another sum of Rs 7 lakhs. (refer Para 8.1.4 above)

- (b) Legal heirs of late Dal Bahadur to be paid an additional sum of Rs 1 (one) lakh as observed in Para 7.10 of the report alongwith the compensation made payable to the legal heirs of other deceased employees.
- (c) Legal heirs of late Nirmal Kumar to be treated in par with other legal heirs of the deceased employees of SECL in the matter of award of compensation as observed at Para 8.1.5 of the report.
- (d) SECL is recommended to invest the compensation amount to be paid to the legal heirs of the deceased employee by way of fixed deposit in a nationalized bank for a minimum period of 5 years from the date of investment with the interest accruing on the said fixed deposit to be paid to the legal heirs of the victims as observed at Para 8.1.4 of the report.

10.11.2 Management of SECL to release entire amount payable to late Ujjwal Das to his wife Smt. Reeta Das and her children as observed at Para 8.2.3 of the report.

10.11.3 (a) Shri S. Avinash to be provided compassionate appointment to a post in SECL or any other subsidiary of Coal India Ltd keeping in mind the qualification (ie suitable to his qualification) he holds as observed at Para 8.3.3 of the report.

- (b) Similar is the position in the case of Smt Ranjana Yadav wife of late Santosh Kumar Yadav as observed at Para 8.3.3 of the report.

(c) SECL to provide compassionate appointment to one of the legal heirs of an employee who die in an accident in the mines suitable to the qualification such a legal heir holds and not at the lower most cadre as being done in the case of providing compassionate appointment to the legal heir of employees who die in normal course when they are in employment.

10.11.4 Management of SECL to extend medical facilities to the legal heirs of the deceased employee who dies in an accident irrespective of quantum of pension the legal heirs are receiving as observed at Para 8.3.7 of the report.

10.11.5 The injured employees of SECL are also to be provided compensation as follows:

(a) Shri Gulam Mohammad who is declared totally unfit and is totally confined to bed to be paid compensation in par with the compensation to be paid to legal heirs of the an employee who died in the accident as observed in Para 8.4 of the report.

(b) The injured employees to be paid compensation ranging from Rs 30,000/- to Rs 3 lakhs depending upon the nature of injuries sustained by them as observed in Para 8.4.4 of the report.

Recovery of Expenses:

11.0 In terms of Rule 22 of the Mines Rules, 1955 made in exercise of the powers conferred under Section 58 (c) of the Mines Act, 1952, the Court of Inquiry directs SECL, being owner of Anjan Hill Mine, to reimburse the costs incurred by the Court of Inquiry. The details of costs incurred by the Court of Inquiry

shall be submitted to SECL by the Secretary to the Court of Inquiry and SECL shall reimburse the same within six weeks from the date of such receipt.

- 12.0 Before parting with this report the Chairman of the Court of Inquiry would like to place it on record the excellent cooperation and assistance given by Shri Shiv Kumar Dubey and Shri Satinder Kumar, assessors.
- 13.0 Shri M. Satyamurty, Secretary of the Court of Inquiry deserves special mention to be made in this report for his excellent assistance and his serious commitment to the work of the Court of Inquiry.

(P. Vishwanatha Shetty)

Former Judge, High Court of Karnataka