

SAFETY, HEALTH & WELFARE LEGISLATION FOR MINES

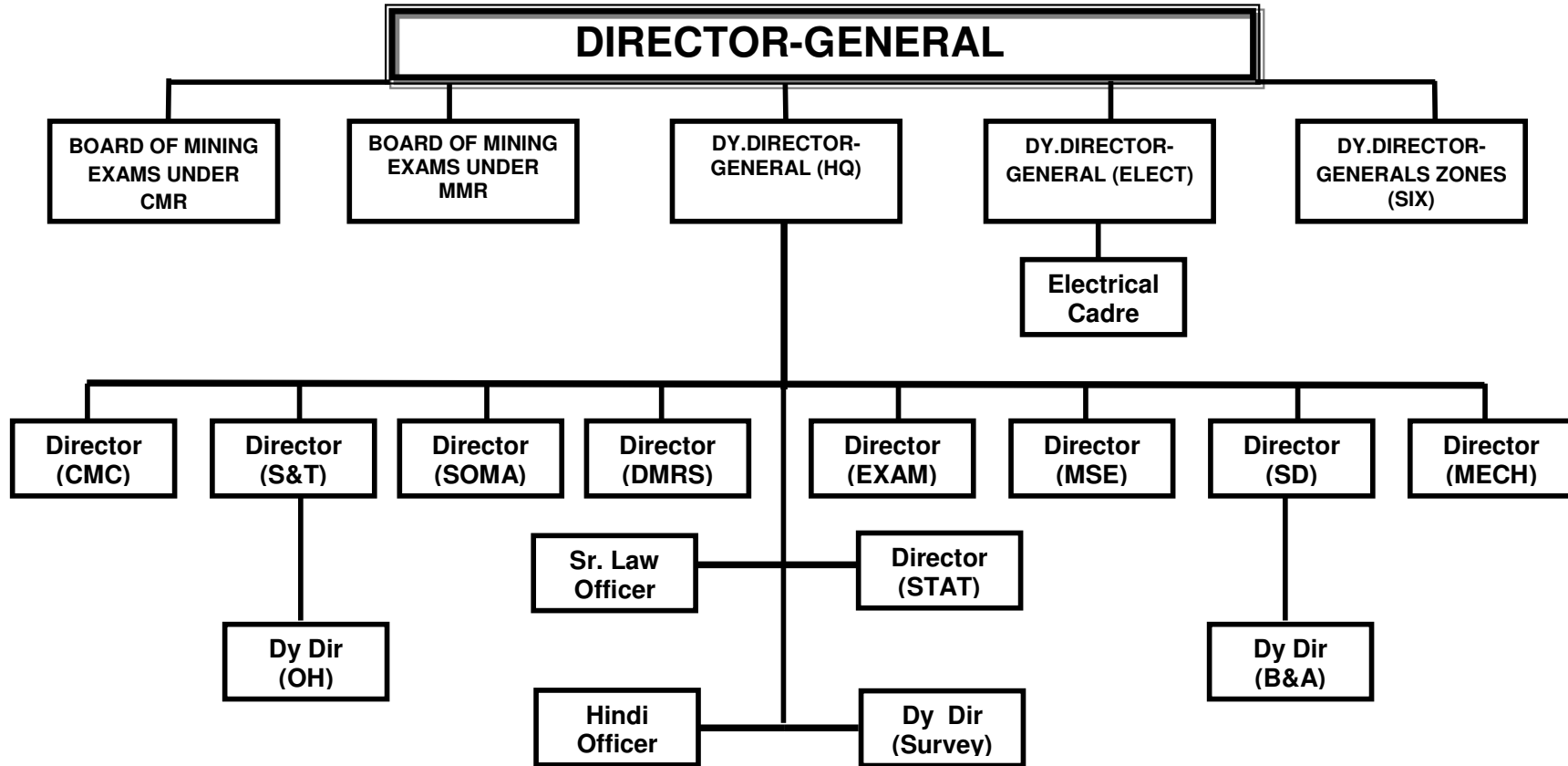
ADMINISTERED BY DGMS

- **The Mines Act, 1952**
 - The Coal Mines Regulations, 1957
 - The Metalliferous Mines Regulations, 1961
 - The Oil Mines Regulations, 1984
 - The Mines Rules, 1955
 - The Mines Vocational Training Rules, 1966
 - The Mines Rescue Rules, 1985
 - The Mines Crèche Rules, 1966
 - Coal Mines Pit Head Bath Rules, 1959

- **Electricity Act, 2003**
 - Indian Electricity Rules, 1956

- **Allied Legislation**
 - Factories Act, 1948 – Chapter III & IV
 - Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989 - under Environmental (Protection) Act, 1986
 - Land Acquisition (Mines) Act, 1885
 - Coal Mines Conservation & Development Act, 1974

**ORGANISATION STRUCTURE
DIRECTORATE-GENERAL OF MINES SAFETY
HEAD QUARTERS, DHANBAD**



Field Organisation of Directorate General of Mines Safety

D I R E C T O R A T E G E N E R A L	Zone	Region	Sub-Region
	Eastern Zone Sitarampur West Bengal	Region No.I Region No.II Region No.III	Digboi
	Central Zone Dhanbad Jharkhand	Region No.I Region No.II Region No.III	
	South Eastern Zone Ranchi Jharkhand	Ranchi Bhubaneshwar Chaibasa Koderma	Ramgarh
	Northern Zone Ajmer Rajasthan	Ajmer Udaipur Ghazibad	
	Southern Zone Hyderabad Andhra Pradesh	Hyderabad Reg.No.I Hyderabad Reg.No.II Chennai Goa	Nellore Bellary
	Western Zone Nagpur Maharashtra	Nagpur-I Nagpur-II Jabalpur Bilaspur	Parasia

APPENDIX-III

STATEMENT SHOWING THE NAMES OF OFFICERS GROUP (A&B)
OF DIFFERENT DISCIPLINES AS ON 31.12.2007

Sl. No	Designation	Name of Officers	Place of Posting	Date of Posting
1.	Director General of Mines Safety	Man Mohan Sharma	Dhanbad	03.04.2007
2.	Deputy Director-General of Mines Safety (Mining)	Deepak Gupta Surinder Jit Sibal Rahul Guha Satish Puri SI Hussain Rash Behari Chakravorty D Sengupta	Ajmer Hyderabad Nagpur Sitarampur Dhanbad Dhanbad Ranchi	28.07.2003 18.08.2003 27.12.2006 06.12.2004 06.11.2007 07.11.2007 01.12.2007
3.	Director of Mines Safety (Mining)	Utpal Saha Akhilesh Kumar Kuldip Kumar Sharma Prasanta Kumar Sarkar Narendra Kumar Kherada Jawahar Lal Chandraker Narain Singh Ashim Kumar Sinha Ashok Kumar Megharaj Rakesh Kulsrestha Swapan Kumar Dutta Prem Chand Rajak P. Ranganatheeswar Anup Biswas A. Bhattacharyya Ashfaq Waheed Munna Tandi Dileep kumar Saxena Arun Kumar Jain Mohan Singh Bisham Pratap Ahuja Koneru Nageshwara Rao Vallala Lakshminarayana S Krishnamurthy Suraj Mal Suthar BP Singh Narayan Rajak Sahadeo Soren DK Mallick	MSE, Dhanbad Examination Udaipur Region SOMA, Dhanbad Bhubaneswar Reg Bilaspur Region Ajmer Ghaziabad Goa Sitarampur Reg-II Sitarampur,Region-III Dhanbad (DMRS) Hyderabad Reg.I Ranchi Jabalpur Region Hyderabad, Region-I Chaibasa Nagpur, Region-I Sitarampur, Region-I Ghaziabad Region Chennai Region Nagpur Region-II Hyderabad, Region-II Koderma Region Dhanbad, Region-II S&T, Dhanbad Dhanbad Reg.I Dhanbad Reg.II SD, Dhanbad	29.05.2007 08.05.2007 31.05.2007 23.05.2007 31.05.2007 05.09.2002 14.05.2007 03.05.2007 24.05.2007 26.07.2007 28.05.2007 29.01.2003 28.05.2007 18.06.2007 10.02.2003 30.05.2007 24.05.2007 18.08.2003 26.07.2007 08.03.2004 17.05.2004 07.05.2007 13.06.2005 28.06.2005 01.08.2005 29.05.2007 15.11.2007 08.11.2007 05.12.2007
4.	Dy. Director of Mines Safety (Mining)	Narendra Murawat Satish Kumar Chabra Umesh Kumar Sharma Mani Ram Mandve Manindra Satyamurty Harish Chandra Yadav Shbhro Bagchi RamMadhabBhattacharjee Ujjwal Tah Rafique Syed Satish Kumar Cherukuri Ramesh Kumar S.K. Gangopadhyay Subhashis Roy	Sitarampur-I Dhanbad Ramgarh Dhanbad Reg.I New Delhi Nagpur, Region-II Sitarampur-II Dhanbad (S&T) Chaibasa Dhanbad, Region-III Jabalpur Nagpur Region No.II Chennai Sitarampur Reg.III	28.11.2006 - 28.05.2007 05.06.2007 Deputation 16.05.2007 17.05.2007 12.07.2002 29.05.2007 01.06.2007 05.06.2007 14.05.2007 11.07.2007 30.05.2007

		Gautam Mitra Chandra Bhanu Prasad Ram Avtar Mal Pareakh Vidyapathi Gubba Vijay Kumar Sheo Shankar Mishra Bhagwan Lal Meena NSRK Prasad Arvind kumar Prabhat Kumar Kundu Ashok Kumar Porwal Ravindra Tulshi Mandekar SatishDigamberChiddarwar Subrat Halder Vanga Vinod Kumar Uttam Kumar Saha Tapan Kanti Mondal Burgula Papa Rao Mihir Choudhary Manish Eknath Murkute Umesh Prasad Singh Ram Abhilash Durga Das Saha Rajagopalan Subramanian Niranjan Sharma Jainendra Kumar Roy Malay Tikader Measala Narsaiah Prabhat Kumar Susanta Kumar Mandal Kamlesh Shrama P. K. Maheshwari Dinesh Kumar Sahu Sanjibon Ray Prabir Kumar Palit Asok Kumar Sur Brajesh Prasad Singh Elpula Jayakumar Partha Sarthi Banerjee Samiran Kumar Das Deo Kumar Rajeev Paul S.S. Prasad Manoranjan Dole BB Satiyar Ramawatar Meena KK Sharma	Bhubaneswar Hyderabad Reg.II HQ, Dhanbad Nagpur Reg.I Dhanbad Goa Udaipur Hyderabad Koderma Chaibasa Dhanbad, Region-III Chennai Dhanbad (Exan) Ajmer Hyderabad Nagpur, Region-I Parasia Bilaspur Bilaspur Dhanbad (S&T) Hyderabad, Region-II Dhanbad (Exam) Bellary Hyderabad, Region-I Ghaziabad Dhanbad (SOMA) Udaipur Digboi Ajmer Sitarampur, Reg-III Jabalpur Sitarampur, Reg-II Bilaspur Udaipur Dhanbad, Region-I Dhanbad, Region-II Dhanbad Ajmer Dhanbad Ghaziabad Dhanbad Dhanbad Nagpur Nagpur Sitarampur Dhanbad Bhubaneswar	02.07.2007 29.05.2007 21.05.2007 05.09.2007 18.11.2002 28.05.2007 28.05.2007 05.07.2007 31.05.2007 21.05.2007 07.07.2003 25.05.2007 21.07.2003 21.07.2003 04.06.2007 24.07.2003 28.07.2003 28.07.2003 04.08.2003 19.04.2004 07.05.2004 11.05.2004 11.05.2004 13.05.2004 28.05.2007 17.05.2004 18.05.2004 11.06.2007 21.05.2004 21.05.2004 28.05.2004 01.06.2004 16.06.2004 19.06.2004 29.06.2004 29.06.2004 16.05.2007 01.10.2004 23.05.2006 08.07.2005 16.05.2007 25.05.2007 18.05.2007 29.05.2007 04.04.2007 28.06.2007 15.06.2007
5.	Dy. Director General of Mines Safety (Elect.)	R. Ramchandiran	Dhanbad (HQ)	13.09.2007
6.	Director of Mines Safety (Elect.)	Dharmendra Kumar Bijay Kumar Panigrahi Birendra Nath Mishra S K Talukdar	Hyderabad Sitarampur Nagpur Dhanbad	20.09.2004 20.09.2004 05.10.2004 17.07.2007
7.	Dy. Director of Mines Safety (Elect.)	Birendra Kumar Lama Gunti Prasad Rao Milan Kanti Das Karuna Moy Ghosh Mahesh Kumar Malviya Radhey Shyam	Nagpur Sitarampur Dhanbad Ranchi Dhanbad CZ Ajmer	12.05.2007 18.05.2007 16.04.2001 21.05.2007 28.04.2003 15.07.2003

		Upendra Nath Pandey K Satyanarayana Yadav G. Lakshmi Kanta Rao Subir Kumar Thakur Balbir Singh Nim Mukesh Srivastava Madhukar Sahay	HQ, Dhanbad Hyderabad Dhanbad CZ Ranchi Sitarampur Nagpur Sitarampur	22.08.2007 09.07.2007 06.05.2004 06.05.2004 21.05.2004 14.06.2004 28.06.2004
8.	Director of Mines Safety, (Mech.)	TS Mukherjee GN Venkatesh	Dhanbad (HQ) Sitarampur	07.06.2006 14.06.2006
9.	Dy. Director of Mines Safety, (Mech.)	Dinesh Pandey Bhageshwar Naik Dhore Raj Narayan Singh S. Venkataraman Hemant Kumar Srivastava	Hyderabad Nagpur Sitarampur Dhanbad Dhanbad, CZ	28.05.2007 08.05.2007 01.11.2001 26.08.2002 17.01.2003
10.	AD(OH)Gr.I	Akul Kumar Sen	Sitarampur	08.05.1998
11.	AD(OH)Gr.II	Kaushik Sarkar George John	Hyderabad Nagpur	16.11.2000 13.08.2001
12.	Dir./Jt. Director (Stat.)	PK Mahapatra Tushar Kumar Lahiri	Dhanbad Dhanbad	- 29.06.2007
13.	Sr. Law Officer	Tapan Kumar Barman	Dhanbad	27.03.2007
14.	Law Officer, Gr.I	Anand Swarup Singh	Dhanbad	07.08.2007
15.	Law Officer, Gr.II	Jai Prakash Jha	Dhanbad	28.01.2002
16.	Hindi Officer	Sita Ram Sharma Monika Tudu Harish Chandra Tiwari	Dhanbad Dhanbad, CZ Sitarampur	01.07.1997 25.01.2002 15.12.2003
17.	Sr. Private Secretary	Kalyan Mandal	Dhanbad	01.04.2005
18.	Administrative Officer	SG Barapatra AK Bhattacharjee	Nagpur Dhanbad	29.10.2007 01.08.2007
19.	Private Secretary	Surya Kanti Ramarao V. Mahadeora Wagh Jagannath Ram RP Rjak SC Nandi S Nandi K Pravabati D Mondal	Hyderabad Nagpur Ranchi Dhanbad Sitarampur Ajmer Dhanbad Dhanbad	10.04.1990 23.04.1990 26.10.2005 01.02.2007 01.05.2007 23.07.2007 26.12.2006 27.03.2006
21.	Jr. Scientific Officer	Shyamal Ganguly	Dhanbad (S&T)	29.06.1992
22.	Sr. Accounts Officer	Ram Lalit Kannaujia	Dhanbad	25.11.1997
23.	Statistical Investigator, Gr.I	Bijay Kumar Srivastava Pramod Chandar Bishwanath Singh Netheti Venkata Rao Birendra Kumar Mishra Daya Shankar Singh Qasim Khan	Dhanbad Dhanbad Dhanbad Hyderabad Dhanbad Dhanbad Dhanbad	20.05.1998 25.09.2000 25.04.2001 01.04.2004 01.04.2004 26.07.2004 11.07.2005

APPENDIX-IIIA

LIST OF GROUP A & B OFFICERS OF DGMS ON DEPUTATION DURING 2007

Sl. No.	Name	Place of posting	Period of deputation	Date of commencement
1.	Sri M. Satyamurthy, Dy. Director of Mines Safety (Mining)	Ministry of Agro & Rural Ind, New Delhi and presently he is on deputation in Planning Commission as Joint Advisor (Coal) from 17.10.2003 in New Delhi	5 years	08.09.2001

APPENDIX-IIIB

OFFICERS OF DGMS ON TRAINING / VISITS ABROAD IN 2007

Sl. No	Name	Country visited	Scheme under which the visit took place	Dates
1.	Shri RAM Parakh, Dy. Director of Mines Safety	Dhaka, Bangladesh	Sub-regional tripartite Workshop on "Promotional Framework on Occupational Safety and Health"	26.11.2007 to 28.11.2007
2.	Shri MM Sharma, Director-General	USA	Study of Coal Mining with High wall Technology	15.12.2007 to 22.12.2007
3.	Shri SJ Sibal, Dy. Director-General of Mines Safety	USA	-do-	15.12.2007 to 22.12.2007
4.	Shri P. Ranganatheswar Director of Mines Safety	USA	-do-	15.12.2007 to 22.12.2007

APPENDIX-IIIC

OFFICERS OF DGMS ON TRAINING IN INDIA DURING 2007

S.N	Name	Name of course	Venue	Dates
1.	Shri Narayan Singh, Director Shri PC Rajak, Director	Training Programme on reservation in Service for SC/ST/OBC/PH in the Govt.	ISTM, New Delhi	26.2.2007 to 28.2.2007
2.	Shri PC Rajak, Director Shri JK Roy, Dy. Director	Technical workshop on post based reservation in service for SC/ST/OBC/PH with the focus on Apex Court directives	Hotel Connaught, New Delhi	9.8.2007 to 11.8.2007
3.	Sri D Sengupta, Director Shri PK Sarkar, Director	Reengineering Office Processes for RTI-2007	Bhubaneswar	21.8.2007 to 23.8.2007

APPENDIX-IV

A – Coal Mines Regulations, 1957

**STATEMENT NO.1A
Results of Examinations, 2007**

1. ISSUE OF CERTIFICATE:

S.No	TYPE OF EXAMINATIONS	2007		REMARKS
		Appeared	Passed	
1.		Exchange Certificate		
(a)	First Class Manager's Exchange Certificate in Lieu of British Certificates	Nil	Nil	
(b)	First Class Manager's Certificate Metal to Coal	Nil	Nil	
(c)	First Class Manager's Certificate Coal to Metal	Nil	Nil	
(d)	Second Class Manger's Certificate Metal to Coal	Nil	Nil	
(e)	Second Class Manager's Certificate Coal to Metal	Nil	Nil	
(f)	Surveyor's Certificate Metal to Coal	Nil	Nil	
(g)	Foreman to Overman	Nil	Nil	
(h)	Mate's (UR) to Sirdar	Nil	Nil	
II.	Regular Examination			Result declared on
(a)	First Class Manager's Certificate	1965	211	03.07.2008
(b)	Second Class Manager's Certificate	1760	127	03.07.2008
(c)	Surveyor's Certificate	280	27	03.07.2008
(d)	Overman's Certificate	1311	126	03.07.2008
(e)	Sirdar's Certificate	470	159	
(f)	Shotfirer's Certificate	Nil	Nil	
(g)	Gas-Testing Certificate	998	396	
(h)	Winding Engine Driver's Certificate			
	a) I Class	21	12	
	b) II Class	37	25	

STATEMENT NO.1B

Certificate without examination (Exempted Categories)

S.No	Type of Examinations	2007		REMARKS
		Applied	Issued	
(a)	First Class Manager's Certificate	-	-	
(b)	Second Class Manager's Certificate	140	100	
(c)	Surveyor's Certificate	23	18	
(d)	Overman's Certificate	200	164	

2. Medical Examination:

Five Year Medical Examination under Regulation 27(1)

S.No	Type of Examinations	2007		Remarks
		Appeared	Passed	
I.	Overman's Certificate	637	632	
II.	Sirdar's Certificate	792	789	
III	Shotfirer's Certificate	22	22	
IV.	Winding Engine Driver's Certificate			
	(a) I Class	138	136	
	(b) II Class	73	73	

3. Senior Medical Examination Board Under Regulation 28:

S.No	Type of Examinations	2007		Remarks
		Appeared	Passed	
(a)	First Class Manager's Certificate	41	40	
(b)	Second Class Manager's Certificate	17	17	
(c)	Surveyor's Certificate	09	09	

4. Junior Medical Examination Board under Regulation 28:

S.No	Type of Examinations	2007		Remarks
		Appeared	Passed	
I.	Overman's Certificate	61	59	
II.	Sirdar's Certificate	76	74	
III	Shotfirer's Certificate	-	-	
IV.	Winding Engine Driver's Certificate			
	(a) I Class	03	03	
	(b) II Class	Nil	Nil	

STATEMENT NO.II

**Suspension of Certificates under the Coal Mines Regulations, 1957
for the year 2007**

S.No	Type of Certificate	No. of Certificate Suspended	Duration of Suspension
Nil			

STATEMENT NO. III

**Debarment from appearing in Examination under the Coal Mines Regulations, 1957
for the year 2007**

S.No	Name	Type of Certificate	Period of debarment
Nil			

STATEMENT NO.IV

Duplicate Certificate issued under Coal Mines Regulations, 1957 during the year 2007

S.No	Name	Type of Certificate	No. of Certificate	Date of Issue
1.	Manjeet Singh	Overman	6906	05.02.2007
2.	R.K. Bharti	Surveyor	495	07.02.2007
3.	H.K. Singh	Overman	7563	27.02.2007
4.	Shivershwar Jha	Overman	1603/4129	07.03.2007
5.	B.K. Singh	Overman	5117	07.03.2007
6.	S. Singh	Overman	9039	24.05.2007
7.	P.K. Singh	Overman	9598	03.12.2007
8.	V.K. Singh	Mining Sirdar	53622	04.12.2007
9.	D.K. Mukhopadhyay	Ist Class	1937	06.12.2007
10	M. Malaiya	Shoffirer	10875	24.12.2007

Duplicate certificates (gas-testing) issued under coal Mines Regulations, 1957 during the year 2007

S.No	Name	Type of Certificate	No. of Certificate	Date of Issue
1.	Manjeet Singh	GT	36573	05.02.2007
2.	Shiveshwar Jha	GT	47018	07.03.2007
3.	M.K. Tirki	GT	70081	21.05.2007
4.	A.K. Sinha	GT	67614	28.05.2007
5.	S.B. Sahu	GT	62239	04.06.2007
6.	G.C. Lohar	GT	68668	26.10.2007
7.	Manish Kumar	GT	69668	5.11.2007
8.	V.K. Singh	GT	70998	04.12.2007

B – Metalliferous Mines Regulations, 1961

**STATEMENT NO. 1A
Results of Examinations, 2007**

1. Issue of Certificate:

S.No	Type of Examinations	2007		Remarks
		Appeared	Passed	
1.	Exchange Certificate			
(a)	First Class Manager's Certificate Coal to Metal	Nil	Nil	
(b)	Second Class Manager's Certificate Coal to Metal	Nil	Nil	
(c)	Surveyor's Certificate Coal to Metal	Nil	Nil	
(d)	Overman to Foreman	Nil	Nil	
(e)	Sirdar to Mate	Nil	Nil	
II.	Regular Examination (Un-Restricted)			Result declared on
(a)	First Class Manager's Certificate	143	10	02.04.2008
(b)	Second Class Manager's Certificate	141	19	02.04.2008
(c)	Surveyor's Certificate	06	02	02.04.2008
(d)	Foreman's Certificate	25	Nil	02.04.2008
(e)	Mining Mate	32	03	
(f)	Blaster	58	13	

II.	Regular Examination (Restricted)			Result declared on
(a)	First Class Manager's Certificate	1068	142	02.04.2008
(b)	Second Class Manager's Certificate	778	95	02.04.2008
(c)	Surveyor's Certificate	74	18	02.04.2008
(d)	Foreman's Certificate	290	47	02.04.2008
(e)	Mining Mate	132	35	
(f)	Blaster	91	30	
C.	Regular Certificate other than above			
(a)	Winding Engine Driver's Certificate			
	(a) First Class	9	3	
	(b) Second Class	8	4	

STATEMENT NO.II

Suspension of Certificates under the Metalliferous Mines Regulations, 1961 for the year 2007

S.No	Type of Certificate	No. of Certificate Suspended	Duration of Suspension
Nil			

STATEMENT NO.III

Debarment from appearing in Examination under the Metalliferous Mines Regulations, 1961 for the year 2007

S.No	Name	Type of Certificate	Period of debarment
Nil			

STATEMENT NO.IVA

Certificate without examination (exempted categories)

S.No	Type of Certificates	2007				Remarks
		Un-restricted		Restricted		
		Applied	Issued	Applied	Issued	
(a)	First Class Manager's Certificate	-	-	-	-	
(b)	Second Class Manager's Certificate	16	10	201	150	
(c)	Surveyor's Certificate	03	02	20	11	
(d)	Foreman's Certificate	17	07	176	66	

STATEMENT NO.IVB

S.No	Type of Examinations	2007		Remarks
		Appeared	Passed	
A	Five Yearly Medical Examination Under Regulation 30(1)			
I.	Foreman's Certificate	579	574	
II.	Mining Mate Certificate	592	589	
III	Blaster's Certificate	03	03	

IV	Winding Engine Driver's Certificate (a) First Class (b) Second Class	- -		- -
B. Yearly Medical Examination Under Regulation 31:				
I.	First Class Manager's Certificate	59	57	
II.	Second Class Manager's Certificate	46	43	
III	Surveyor's Certificate	08	08	
C. Yearly Medical Examination Under Regulations 31:				
I.	Foreman's Certificate	84	81	
II.	Mining Mate Certificate	54	52	
III	Blaster's Certificate	27	23	
IV	Winding Engine Driver's Certificate (c) First Class (d) Second Class			

STATEMENT NO.V

Duplicate certificates issued under Metalliferous mines regulations, 1961 during the year 2007

S.No	Name	Type of Certificate	No. of Certificate	Date of Issue
1.	N.K. Rao	Blaster	959	22.01.2007
2.	R.S. Singh	Foreman	1725	24.01.2007
3.	Kana	Foreman	2401	05.02.2007
4.	S.Rao	Foreman	3422	08.10.2007
5.	Jamuna Prasad	Mate	6915	04.06.2007
6.	Ghanshyam Paliwal	Blaster	3989	26.10.2007
7.	G.N. Singh	Foreman	2614	08.11.2007
8.	K.P. Pandey	Mining Mate	6924	06.12.2007

Duplicate certificates (gas-testing) issued under Metalliferous Mines Regulations, 1961 during the year 2007

S.No	Name	Type of Certificate	No. of Certificate	Date of Issue
Nil				

APPENDIX-V

1. List of Mines Safety Equipment and Material required to be approved by DGMS under Coal & Metalliferous Mines Regulations.

Equipment/Material	Provision of Regulation	
	CMR, 1957	MMR,1961
1. Flame Safety Lamp	2(2)	2(2)
2. Cap Lamps	2(2)	2(2)
3. Permitted Explosives	2(23)	2(23)
4. Tub Couplings	89(1)(c)	97(1)(c)
5. CO Detector	113(3)(c) 118A(3)(a)(i) 119(1)(b),121 125(3)(b) 142(5)	116(3)(c) 120(1)(b) 120(2)(c) 122, 126(3)(b) 141(5)
6. CO ₂ Detector	119(2)(d)(ii)	-
7. Dust Extractor	123(3)(b)	124(2)(b)
8. Stone Dust Barrier	123(c)(2)	-
9. Methanometers	145(1)(a)	-
10.Glass of Flame Safety Lamp	157(4)	151(4)
11.Cap Lamp Bulbs	157(4)	151(4)
12.Oil for Flame Safety Lamp	157(5)	151(5)
13.Mechanically propelled vehicle for transport of explosive	164(A)(2)(a)	-
14.Exploders	174	165(3)
15.Protective Footwear	191	182
16.Helmet	191-A	182-A
17.Self-Rescuers	191D	-
18.Fire-resistant brattices including plastic sheeting and ventilation ducting	181(3)	-
19.Safety belt	181(3)	-
20.Friction Props & Props setting devices	181(3)	-
21.Hydraulic roof supports	181(3)	-
22.Link Bars	181(3)	-
23.Powered Supports	181(3)	-
24.Fire resistant hydraulic fluid	181(3)	-
25.Man-riding haulage system	181(3)	-
26.Detaching hook	181(3)	-
27.Cage suspension gear including bridle chains	181(3)	-
28.Winding Rope	181(3)	-
29.Balance Rope	181(3)	-
30.Haulage rope for man-riding	181(3)	-

Equipment/Material	Provision of Regulation	
	CMR, 1957	MMR,1961
31.Conveyor belting	181(3)	-
32.Locomotive	181(3)	-
33.Internal combustion engine	181(3)	-
34.Flame proof & intrinsically safe electrical equipment	181(3)	-
35.Cables	181(3)	-
36Automatic Contrivance	181(3)	-
37.Power Brake	181(3)	-
38Automatic speed chart recorder	181(3)	-
39.Water ampoules/gel ampoules for stemming explosive charges	181(3)	-

2. List of equipment required to be approved by DGMS under Mines Rescue Rules, 1985

Equipment	Provision of Mines Rescue Rules, 1985
1. Breathing apparatus	Rules 11(5)
2. Smoke helmets & apparatus	Rules 11(5)
3. Reviving apparatus	Rules 11(5)
4. Electric Safety Lamps & Flame Safety Lamps	Rules 11(5)
5. Gas Detectors	Rules 11(5)
6. Self-Rescuers	Rules 11(5)

3. List of equipment and material required to be approved under Oil Mines Regulations, 1984.

Equipment/Material	Provision of Regulation
1. Safety belt and life line	27
2. Petroleum storage tanks (specification approval)	55
3. Pipe lines and fittings (specification approval is not as per ISS)	62
4. Electrical lighting apparatus	84
5. Protective footwear	87
6. Protective helmet	88
7. Electrical equipment for use in hazardous area (Zone 1 and 2)	73

APPENDIX-VI

NOTIFICATIONS & CIRCULARS

Notifications – 2007

New Delhi, the 28th March, 2007

S.O. 459(E) – Whereas, the government of India in the Ministry of Labour & Employment in their notification No.S.O.1756(E) dated 12th October, 2006 appointed Shri PC Parakh, former Secretary, Ministry of Coal to hold a formal inquiry into the causes and circumstances attending the accident that occurred on 6th September, 2006 in the collieries of M/s. Bharat Coking Coal Limited, more particularly in the Bhatdee Colliery in Dhanbad District of Jharkhand State, causing loss of lives and present a report within a period of three months. The duration of the enquiry was upto 11.1.2007.

And, whereas, it has become necessary to extend the period within which the inquiry is to be conducted and report presented.

Now, therefore, the Central Government do hereby extend this duration for a further period of six months from 12th January, 2007 to 11th July, 2007 or till the day/date on which the report of the Inquiry is submitted, whichever is earlier. Accordingly the period of appointment of Chairman, Shri PC Parakh to conduct the inquiry and present the report and the period of appointment of Shri R. Sharma, Ex-Director-General of Mines Safety and Shri O.P. Lal, Ex-Minister for Mines, Bihar and Organizing Secretary, INTUC as assessors is also extended for a further period of six months i.e. upto 11th July, 2007 or till the day/date on which the report of the Court of Inquiry is submitted, whichever is earlier.

[F.No.N-12020/1/2006/ISH.II]
Gurjot Kaur, Joint Secretary

Dhanbad, the 22nd May, 2007

G.S.R. 98 – In exercise of the power conferred on me under Sub-Regulation 3 of Regulation 181 of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare 1.7.2007 as the date from which following items will not be used in below ground Coal Mines unless the same has been approved by me by a general or special order in writing.

1. Noise level meter
2. Stemming plug

[No.14(16)79-Genl/2413]
Man Mohan Sharma,
Director-General of Mines Safety.

Dhanbad, the 25th May, 2007

G.S.R. 106 – In exercise of the power conferred on me under Sub-Regulation 3 of Regulation 181 of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare 1.7.2007 as the date from which following items will not be used in below ground Coal Mines unless the same has been approved by me by a general or special order in writing.

1. Pit Bottom Buffer.

[No.14(16)79-Genl/2413]
Man Mohan Sharma,
Director-General of Mines Safety.

New Delhi, the 5th June, 2007

S.O. 877(E) – In exercise of the powers conferred by Sub-section (1) of Section 5 of the Mines Act, 1952 (35 of 1952), the Central Government hereby appoints Shri J.P. Kashyap, Deputy Director-General of Mines Safety, in the Directorate-General of Mines Safety Organization to be the Chief Inspector of Mines for all the territories to which the said Act extends with immediate effect from 9.6.2007 to 17.6.2007 as per the extant Rules.

[F.No.Z-16025/96/2006-ISH.II]
Gurjot Kaur, Joint Secretary

New Delhi, the 22nd June, 2007

S.O. 1006(E) – Whereas the Government of India in the Ministry of Labour & Employment in their notification No.S.O.1756(E) dated 12th October, 2006 appointed Shri PC Parakh, former Secretary, Ministry of Coal to hold a formal inquiry into the causes and circumstances attending the accident that occurred on 6th September, 2006 in the collieries of M/s. Bharat Coking Coal Limited, more particularly in the Bhatdee Colliery in Dhanbad District of Jharkhand State, causing loss of lives and present a report within a period of three months. The duration of the enquiry was upto 11.1.2007.

However, vide Notification S.O. 459(E) dated 28.3.2007, the tenure of the said Court of Inquiry was extended for a further period of six months i.e. upto 11.7.2007.

And, whereas, it has become necessary to extend the period within which the inquiry is to be conducted and report presented.

Now, therefore, the Central Government do hereby extend this duration for a further period of three months from 12th July, 2007 to 11th October, 2007 or till the day/date on which the report of the Inquiry is submitted, whichever is earlier. Accordingly the period of appointment of Chairman, Shri PC Parakh to conduct the inquiry and present the report and the period of appointment of Shri R. Sharma, Ex-Director-General of Mines Safety and Shri O.P. Lal, Ex-Minister for Mines, Bihar and Organizing Secretary, INTUC as assessors is also extended for a further period of three months i.e. upto 11th October, 2007 or till the day/date on which the report of the Court of Inquiry is submitted, whichever is earlier.

[F.No.N-12020/1/2006/ISH.II]
S.K. Srivastava, Joint Secretary

New Delhi, the 24th July, 2007

S.O. 1204(E) – In exercise of the powers, conferred by Sub-regulation (1), (2), (3) and (4) of Regulation 11 of the Metalliferous Mines Regulations, 1961 and in continuation of the Notification of the Government of India in the Ministry of Labour & Employment No.S.O.91(E) hereby appoints Shri V.K Mitra, Vice-President, J.K. Lakshmi Cement Limited in Rajasthan, as member of the Board of Mining Examinations (Metal) in place of Shri K.S. Choudhary, Additional Executive Director (Mining Operation), Hindustan Zinc Limited, Udaipur for a period upto 24.1.2008.

[F.No.S-66012/1/2004-ISH.II]
S.K. Srivastava, Joint Secretary

New Delhi, the 6th August, 2007

S.O.1366(E) – In exercise of the powers conferred by Sub-regulations (1), (2) and (3) of Regulation 11 of the Coal Mines Regulations, 1957 and in supersession of the notification of the Government of India in the Ministry of Labour and Employment number S.O.92(e) dated 25th January, 2005, the Central Government hereby re-constitutes the Board of Mining Examinations (Coal) and appoints the following persons as members of the Board for a period of three years or till their successor is appointed, whichever is later, namely:-

1. Chief Inspector of Mines (Since designated as Director-General of Mines Safety) Ex-officio. - Chairman
2. Shri Ashok Kumar Singh, Director (Technical)/Operations, M/s. Central Coalfields Limited, Dharbanga House, Ranchi-834001. - Member
3. Shri Mukh Pada Dikshit, Director (Technical), South Eastern Coalfields Limited, Seepat Road, Bilaspur. - Member
4. Shri Shree Ramji Upadhyay, Director (Technical)/Operations, Western Coalfields Limited, Coal Estate, Civil Lines, Nagpur-440001. - Member
5. Shri Jammalamadaka V. Duttatreylu, Director (Operations), M/s. Singareni Collieries Company Limited, Kothagudem Collieries, P.O. Khammam District, Andhra Pradesh-507101. - Member
6. Dr. Ashis Bhattacharjee, Professor & Head of the Deptt., Department of Mining Engineering, Indian Institute of Technology, Kharagpur-721302 (WB). - Member

[F.No.S-66012/1/2007-ISH.II]
S.K. Srivastava, Joint Secretary

New Delhi, th 25th October, 2007

S.O. 1816(E) – Whereas the Government of India in the Ministry of Labour & Employment in their notification No.S.O.1756(E) dated 12th October, 2006 appointed Shri PC Parakh, former Secretary, Ministry of Coal to hold a formal inquiry into the causes and circumstances attending the accident that occurred on 6th September, 2006 in the collieries of M/s. Bharat Coking Coal Limited, more particularly in the Bhatdee Colliery in Dhanbad District of Jharkhand State, causing loss of lives and present a report within a period of three months. The duration of the enquiry was upto 11.1.2007.

However, vide Notification S.O.1006(E) dated 22.6.2007, the tenure of the said Court of Inquiry was extended for a further period of six months i.e. upto 11.10.2007.

And, whereas, it has become necessary to extend the period of the Court of Inquiry, as the Chairman, Court of Inquiry submitted the report to the Hon'ble Minister of State (Independent Charges) of Labour and Employment on 17th October, 2007.

Now, therefore, the Central Government do hereby extend this duration for a further period from 12th October, 2007 to 20th October, 2007. Accordingly the period of appointment of Chairman, Shri PC Parakh to conduct the inquiry and present the report and the period of appointment of Shri R. Sharma, Ex-Director-General of Mines Safety and Shri O.P. Lal, Ex-Minister for Mines, Bihar and Organizing Secretary, INTUC is extended for a further period upto 20th October, 2007.

[F.No.N-12020/1/2006/ISH.II]
S.K. Srivastava, Joint Secretary

Dhanbad, the 14th November, 2007

G.S.R. 260 – In exercise of the power conferred on me under Regulation 182(B) of the Metalliferous Mines Regulations, 1961 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare the following safety items to be used in Metalliferous mines to protect the persons employed therein from undue hazardous conditions like noise, dust, visibility and for proper identification of persons with visibility harness, with immediate effect, in a kit form for easy carrying:

1. Safety Goggles.
2. Reusable Earplug.
3. Visibility Harness and
4. Dust Respirator

[No.16(38)79-Gen/5102]
Man Mohan Sharma,
Director-General of Mines Safety.

Dhanbad, the 14th November, 2007

G.S.R. 261 – In exercise of the power conferred on me under Regulation 191(B) of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare the following safety items to be used in coal mines to protect the persons employed therein from undue hazardous conditions like noise, dust, visibility and for proper identification of persons with visibility harness, with immediate effect, in a kit form for easy carrying:

1. Safety Goggles.
2. Reusable Earplug.
3. Visibility Harness and
4. Dust Respirator

[No.16(38)79-Gen/5102]
Man Mohan Sharma,
Director-General of Mines Safety.

New Delhi, the 14th December, 2007

S.O.2134(E) – In exercise of the powers conferred by Sub-section(1) of Section 5 of the Mines Act, 1952 (35 of 1952), the Central Government hereby appoints Shri Deepak Gupta, Deputy Director-General of Mines Safety (Mining), Northern Zone, Ajmer to be the Chief Inspector of Mines for all the territories to which the said Act extends with effect from 15.12.2007 to 27.12.2007 as per the extant Rules.

[F.No.T-15011/02/2007-ISH.II]
Gurjot Kaur, Joint Secretary

Circulars – 2007

No. DGMS(Legis) Circular No.1 of 2007

Dhanbad, dated 30.7.2007

To
Owners/Agents/Managers of all Coal Mines.

Notification No.14(16)79-Genl/2413 dated 22nd May, 2007, published in the Gazette of India, Part-II, Section 3(i) on 16.6.2007 vide GSR-98 is reproduced below for information and taking necessary steps to comply with the requirement of the same:

“In exercise of the power conferred on me under Sub-Regulation 3 of Regulation 181 of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare 1.7.2007 as the date from which following items will not be used in below ground Coal Mines unless the same has been approved by me by a general or special order in writing”.

1. Noise level meter
2. Stemming plug

No. DGMS(Legis) Circular No.2 of 2007

Dhanbad, dated 13.9.2007

To
Owners/Agents/Managers of all Coal Mines.

Sub: Approval of Safety Goggles, Reusable Earplug and Visibility Harness

Notification No.14(16)79-Genl/3102 dated 10th July, 2007, published in the Gazette of India, Part-II, Section 3(i) on 28.7.2007 vide GSR-154 is reproduced below for information and taking necessary steps to comply with the requirement of the same:

“In exercise of the power conferred on me under sub-regulation 3 of Regulation 181 of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare 25.8.2007 as the date from which the following safety items to be used in coal mines unless the same has been approved by me by a general or special order in writing”.

1. Safety Goggles.
2. Reusable Earplug.
3. Visibility Harness.

No.DGMS(Approval) Circular No.1 of 2007

Dhanbad, dated 11.5.2007

To
All Owner, Agent & Manager of all mines.

Sub: Approval of Full Body Harness/Safety Belt use in Mines.

Vide DGMS Circular No.1 of 1993, it was informed that the Safety Belts conforming to IS:3521-1983 covered under BIS Licence to use IS specification mark shall be considered at par with the Safety Belt accorded approval by DGMS in past.

The BIS specification IS:3521-1983 has since been amended as IS:3521-1999 in which the Full Body Harness is also included. In view of the above it is inform to all concerned that the Safety Belts/Full Body Harness shall be used in the mines after the same has been approved by DGMS and possess valid BIS Licence to use IS specification mark.

No.DGMS(Approval) Circular No.2 of 2007

Dhanbad, dated 1.7.2007

To
The Owner, Agent and Manager of all Mines.

Sub: Life of Flame Safety Lamp

Velox GL-7 & GL-50 type Flame Safety Lamps are extensively used in mines for determination of presence of CH₄ and deficiency of Oxygen in the mine atmosphere. It is noticed that the lamps are not maintained properly. The recommended fuel is not used in the lamps. Proper type of wire gages filaments etc. is not provided. The re-lighting arrangement does not work at times. Worn out parts are used in this lamps.

The manufacturer has informed about the life of different parts of the lamp. According to manufacturer the life of a Flame Safety Lamp should be 5 to 6 years during their normal use and if they are subjected to proper maintenance.

In view of the above, it is suggested that the life of the Lamps shall be fixed as per the manufacturer's recommendation, which may vary from 5 to 6 years. During these periods replacement of the parts manufactured by the original manufacturer may be used so that the lamps give the desired result.

No.DGMS(Approval) Circular No.3 of 2007

Dhanbad, dated 2.7.2007

To
The Owner, Agent and Manager of all Coal Mines having winding in shaft.

Sub: Provision of Pit Bottom Buffers

A no. of hard landing had occurred while persons were being lowered in a shaft by Winding Engine, causing serious injuries to persons and even death in a few cases. To avoid such injuries, use of Pit Bottom Buffer was recommended vide DGMS (Tech) Circular No.3 of 1993 dated 27th April, 1993.

A Notification No.14(16)79-Genl/2484 dated 25th May, 2007 had been forwarded to published in the Gazette of India is reproduced below for information and taking necessary step to comply with the requirements of the same.

"In exercise of the power conferred on me under Sub-Regulation 3 of Regulation 181 of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare 1.7.2007 as the date from which following items will not be used in below ground Coal Mines unless the same has been approved by me by a general or special order in writing".

1. Pit Bottom Buffer.

No.DGMS(Approval) Circular No.4 of 2007

Dhanbad, dated 24.7.2007

To
The Owner, Agent and Manager of all Coal Mines having winding in shaft.

Sub: Provision of Pit Bottom Buffers

A no. of hard landing had occurred while persons were being lowered in a shaft by Winding Engine, causing serious injuries to persons, disablement at many cases and even death in a few cases. Hence provision of Pit Bottom Buffer at man winding shaft is felt essential to avoid such injuries.

This circular is issued in continuation of our earlier circular No.DGMS (Approval) Circular No.3 dated 2nd July, 2007.

A Notification No.14(16)79-Genl/2484 dated 25th May, 2007 published in the Gazette of India Part-II Sec 3(i) on 16.6.2007 vide GSR-106 is reproduced below for information and taking necessary step to comply with the requirements of the same.

“In exercise of the power conferred on me under Sub-Regulation 3 of Regulation 181 of the Coal Mines Regulations, 1957 I, M.M. Sharma, Chief Inspector of Mines also designated as the Director-General of Mines Safety declare 1.7.2007 as the date from which following items will not be used in below ground Coal Mines unless the same has been approved by me by a general or special order in writing”.

1. Pit Bottom Buffer.

No.DGMS(Technical) Circular No.1 of 2007

Dhanbad, dated 5.1.2007

To
All Owner, Agent & Manager of Coal Mines.

Sub: Use of integrated steel support and steel props in coal mines

Roof bolting is extensively used as a system of support in Indian coal mines. However, in certain areas of depillaring workings and other development workings, conventional supports are also being used. In view of several fatal accidents due to fall of roof in roof bolted workings including depillaring areas, a committee was constituted comprising mine management, trade union, Central Mining Research Institute and Directorate-General of Mines Safety to look into the issue at depth.

It has been suggested to strengthen the goaf edge support effectively and quickly. One such option is to provide integrated steel support and steel props as and when the situation demands. Before using the supports in coal mines they need to be tested to ascertain the efficacy. A general minimum test standard for such supports has been detailed in Annexure-I & II.

You are requested to give wide publicity amongst all concerned persons working in your area about the same for information and compliance.

Annexure-I

Test requirement for square steel cog stool/chock

1. At least two prototype samples shall be tested for type test by a duly approved testing body.
2. 0.5% of the production shall be subjected to routine test or production tesst.
3. Axial Load test.

The Square Steel Cog Stool/Chock shall be set vertically in a testing machine and the designed load is applied. The load-yield characteristics shall be obtained.

4. Eccentric Load test

The test shall be conducted on the Square Steel Cog Stool/Chock by putting the Square Steel Cog Stool/Chock with an eccentricity of about 54 mm at the upper end.

5. Overload test

An overload test shall be conducted by subjecting the Square Steel Cog Stool/Chock to a load equal to one and half time the nominal load. The test shall be conducted for at least five observations.

6. Minimum performance requirements

There shall be no abnormal wear, distortion or failure of any part of the Square Steel Cog Stool/Chock.

The load bearing capacity of Square Steel Cog Stool/Chock shall not be less than 500 kN.

7. Marking

Square Steel Cog Stool/Chock shall be marked with the manufacturers name and/or registered trade mark, serial number, size and nominal load of the square steel cog stool/chock.

Annexure-II

Test requirement for Steel Pit Prop/Rigid Prop

1. At least two prototype samples shall be tested for type test by a duly approved testing body.

2. 0.5% of the production shall be subjected to routine test or production test.

3. Axial Load test.

The Steel Pit Prop/Rigid Prop shall be set vertically in a testing machine and the designed load is applied. The load-yield characteristics shall be obtained.

4. Eccentric Load test

The test shall be conducted on the Steel Pit Prop/Rigid Prop by putting the Steel Pit Prop/Rigid Prop with an eccentricity of about 54 mm at the crown.

5. Overload test

An overload test shall be conducted by subjecting the Steel Pit Prop/Rigid Prop to a load equal to one and half time the nominal load. The test shall be conducted for at least five observations.

6. Minimum performance requirements

There shall be no abnormal wear, distortion or failure of any part of the Steel Pit Prop/Rigid Prop.

The load bearing capacity of Steel Pit Prop/Rigid Prop shall not be less than 200 kN.

7. Marking

Steel Pit Prop/Rigid Prop shall be marked with the manufacturers name and/or registered trade mark, serial number, size and nominal load of the Steel Pit Prop/Rigid Prop.

No.DGMS(Technical) Circular No.2 of 2007

Dhanbad, dated 23.3.2007

To

The Owners, Agents and Managers of all Coal Mines,
Manufacturers/Suppliers of Approved type of Self-Contained Self-Rescuers
All Inspecting Officials of the Directorate.

Sub: Protocol on use, care, maintenance, sampling & testing of Self-contained Self-Rescuer (SCSR) under Regulation 191D (2) & (3) of the Coal Mines Regulations, 1957.

In view of the limitations of the Filter Self Rescuer as escape device and in pursuance to the recommendation of the Ninth Conference on Safety in Mines as well as the New Kenda Court of Enquiry, a meeting of users, regulators, scientific institutions, academicians and manufacturers/suppliers was held on 16th March, 2004 to consider introduction of SCSR in Indian mines. As decided in the meeting a "committee" representing users, regulators, scientific institutions and academicians was constituted to recommend mode of introduction of SCSR.

The committee recommended "use of Self contained or Oxygen type Self Rescuer (SCSR) in all degree III and degree II gassy mines and in all fiery mines to be enforced with immediate effect". Based on the recommendations of the said committee a Statutory Order under Regulation n191D of the Coal Mines Regulations, 1957 was issued on 5th January, 2007.

To ensure proper quality of supply, efficient use, care and maintenance of SCSR a comprehensive protocol on its use, care, maintenance sampling and testing, as suggested by the working group constituted for the purpose and the manufacturer/suppliers, has been formulated as mentioned below. It is expected that the "protocol" would be religiously implemented by all concerned:

A. USE, CARE & MAINTENANCE:

1. The Owner, Agent and Manager of a mine with below ground workings, upto the travel time of one hour, shall ensure that the rated duration of the Self Contained Self Rescuer (SCSR), provided to any person, is not less than one hour. However, in respect of workings with more than one hour travel time adequate number of SCSR (not less than the maximum attendance of the largest shift) shall be placed at suitably designed "Safe Haven" or "Refuse Chambers" located at convenient point(s).
2. Contrary to the above, use of SCSR of rated duration less than 60 minutes and upto 30 minutes for a specific district or panel of the mine may be permitted, on request of the Owner/Agent/Manager of the mine in writing, by the concerned Regional Inspector of Mines.
3. Every person required to go down the mine shall be provided with a belt/harness of suitable design to enable him to carry the SCSR as well as other gadgets conveniently on his body.
4. Special racks of suitable design shall be provided for storage. The storage area should be away from heat source. Units shall be cleaned regularly with wet cloth in no case organic solvents shall be used for cleaning of the SCSR.
5. Every unit in use shall be subjected to "daily visual check" for the seals (intact or not), leakage indicator (change in colour), clamps (for any damage), belt loop (for any damage) and container (for any damage or dent). Units found O.K. in visual check only shall be issued and used. Damaged/defective unit shall be immediately withdrawn from use and be kept separately.
6. Every SCSR on roll of the mine shall be subjected to "Leak Tightness Test", as least once in a quarter by a competent person duly authorized by the manager for the purpose, in the following manner:
 - i. Place the apparatus inside the test box;
 - ii. Put the lever down to the slotted place;
 - iii. Close the lid of the box tightly;
 - iv. Release lever to its original place to create vacuum of about 20 mb as displayed in the attached pressure/cacuum gauge &

- v. Watch the pressure/vacuum gauge for a minute, if the drop in the reading is less than 5 mb the unit is considered to be leak tight and is fit to use or else the unit shall be treated as failed and shall be withdrawn from the use.
7. Test result in respect of “daily visual check” and “Leak Tightness Test” with regard to each & every unit shall be recorded in a bound-paged register kept for the purpose. Every entry shall be signed by the person who has conducted the test and to be counter signed by the Manager or any other official authorized by him in this regard.
8. The Manager shall prepare a code of practice for storage, use, care and maintenance of the SCSR based on the model code provided by the Owner.
9. As far as practicable use of one type of SCSR shall be preferred in a mine.

B. SAMPLING & TESTING:

- 1.1 At the time of supply: Before a batch SCSR units are put to use samples at the rate of three percent (3%) subject to a minimum of nine unit, for every batch of supply shall be drawn at random for the testing by a joint sampling team comprising of representatives from manufacturer/supplier and user at the user’s site.
 - 1.2 Fifty percent (50%) of the above drawn sample (subject to a minimum of six units) shall be sent to any of the approved/accredited laboratories for full bench test as per EN 401 or equivalent Indian Standard and rest of the sample units (subject to a minimum of three) shall be subjected to practical performance test for the rated duration and the users comfort at the nearest rescue station.
 - 1.3 The batch of supply for which all the test result of the samples (100%) are found satisfactory shall only be put to use. In case of unsatisfactory test result even for a single sample, either at the laboratory or in the practical performance test, the entire batch of supply shall not be accepted for use.
 - 1.4 Results of the above stated laboratory test as well as practical performance test, duly counter signed by the mine owner or any person authorized by him for this purpose shall be recorded at owner’s office. A copy of the said test result shall also be kept at the mine office and shall be made available for inspection, upto the shelf life of the apparatus. All test results with unsatisfactory performance of a sample, whether in the laboratory or in the practical performance test, shall also be forwarded by the concerned mine owner and the concerned manufacturer to the Chief Inspector of Mines (also designated as Director-General of Mines Safety).
- 2.0 To ensure functional ability:

To ensure the functional ability 1% of the total units under use of a particular make and type shall be drawn randomly every year for test subject to a minimum of one unit for each make and type.

The sample thus collected shall be tested at any of the approved/accredited laboratories for the following parameters as per the specifications of EN 401 or equivalent Indian Standard (at 35 liter/min. during the rated duration):

Parameter	Acceptance Level
Rated duration (as per label)	Not less than 90% of specified duration
Inhalation Oxygen concentration (% by vol.)	Not less than 21*
Inhalation Carbon Dioxide Concentration (% by vol.)	Not more than 2.5#
Maximum inhalation air Temperature dry bulb	Not more than 55° C
Inhalation breathing resistance	Not more than 12 mbar
Exhalation breathing resistance	Not more than 12 mbar

* A short term deviation to a level of not less than 17% for a period of not more than two minutes at the beginning of the test is permissible.
through out the rated duration of the apparatus the carbon dioxide concentration of the inhaled air shall not exceed an average value of 2.5% (by volume) and at no time shall exceed 3.0% (by volume).

3. Results of the above stated functional ability test, duly counter signed by the mine manager, shall be recorded at the mine office and shall be made available for inspection, upto two years of reporting.
4. In case of unsatisfactory test result(s), during the above functional ability test, all SCSRs of the batch whose sample had failed shall be immediately withdrawn from the use under intimation by the Owner, Agent or Manager to the Regional as well as Chief Inspector of Mines. Immediate steps shall also be taken to meet the shortage of SCSRs, if any, created due to such withdrawal.

C. TRAINING

1. Every worker required to work in belowground workings shall undergo an initial training on SCSR covering following subjects:
 - i. Role of SCSR as an escape apparatus in emergency;
 - ii. Theory of working of a SCSR;
 - iii. Construction details of a SCSR;
 - iv. Way to use SCSR;
 - v. Limitations while using SCSR like its duration, inhalation and body temperature during use and
 - vi. Hands on training on donning of SCSR in poor visibility.
2. A team of trainers shall be created from V.T.O. Safety Officer, Ventilation Officer, Asstt. Manager, Engineer, Workman Inspector and Rescue Trained Persons to impart weekly Pit-top/Incline-Mouth Training/Re-training of workers.
3. Video Clippings, audios & posters on use of SCSR and sufficient number of dummies, subject to a minimum of 5% of the average daily underground attendance, shall be provided to every mine with below ground workings.
4. The training module for initial and refresher training of miners, at the VTS, shall be suitably modified to incorporate training on need, importance and use of SCSR.
5. Apart from training to users the trainers and persons required to issue and maintain SCSRs shall also be trained for their respective work.
6. A competition on SCSR during Safety Week and Rescue Competitions shall be organized to promote awareness of workers in this regard.

No.DGMS(Technical) Circular No.2A of 2007

Dhanbad, dated 30.6.2007

To
The Owners, Agents and Managers of all Coal Mines,
Manufacturers/Suppliers of Approved type of Self-Contained Self-Rescuers
All Inspecting Officials of the Directorate.

Sub: Protocol on provision and use of Self-Contained Self-Rescuer (SCSR) under Regulation 191D (2) & (3) of the Coal Mines Regulations, 1957 – Addendum thereof.

In view of the expected difficulties in carrying and keeping the SCSR of one hour duration on a person's body and do clarify other confusions it is proposed to amend clause A 1.0 of the "Protocol" as following:

A. USE, CARE & MAINTENANCE

1.0 The Owner, Agent and Manager of a mine, with travel time of more than 30 minutes in below ground workings, shall ensure that adequate number (not less than the maximum attendance of the largest shift) of Self-Contained Self-Rescuer (SCSR) with the rated duration of one hour shall be placed at suitably designed "Safe Haven" or "Refuse Chambers" located at convenient point(s). Whereas every person required to work, supervise or visit below ground workings are provided with and carries with them a SCSR of 30 minutes duration on their belt wherever they go or work.

2.0 The mine management may construct "Safety Haven" or "Refuse Chambers" at convenient location(s) in below ground with prior approval of the Director-General of Mines Safety. A copy of application, for such approval, with complete details shall also be forwarded to the concerned Director of Mines Safety and the Dy. Director-General of Mines Safety.

All other provision of the "Protocol" issued vide DGMS (Tech) Circular No.2 of 2007/999-1600 dated the 23rd March, 2007, shall be followed as it is.

No.DGMS(Technical) Circular No.3 of 2007

Dhanbad, dated 1.5.2007

To
The Owners, Agents and Managers of all mines.

Sub: Noise Levels and Noise Induced Hearing Loss among mine workers.

In continuation to DGMS Technical Circular No.18 of 1975 and NO.5 of 1990 on "Protection of Workers against noise", it is brought to the knowledge of all concerned that Noise is emerging as an important and challenging health hazards for mine workers. With increasing mechanization of mining operations and use of heavy machinery the noise level in mines have increased over the years. Surveys conducted by this Directorate and other institutions have shown that noise levels in majority of the mining operations are higher than the recommended limit of 90 dB(A).

In an occupational health survey conducted in an belowground metal mine more than 80% of workers showed evidence of Noise Induced Hearing Loss of 27.7% and 13.1% had severe and profound hearing impairment. Noise Induced Hearing Loss was observed among all category of mine workers but the prevalence was highest among workers engaged in drilling operations. The occurrence and severity of NIHL was related to the degree of exposure to noise and years of service in the mine.

In order to prevent occurrence of Noise Induced Hearing Loss among mine workers every mining company should formulate long term strategies and comprehensive hearing conservation programme which should have following components:

1. Noise Level Surveys including Noise Exposure Dose Profile of workers
2. Engineering and Administrative Controls
3. Awareness and Health Promotion Programmes on Noise and its effects
4. Personal Hearing Protection
5. Audiometric Examination of workers
6. Maintenance of comprehensive records of Noise Level Surveys
7. Periodic monitoring and review of Hearing Conservation Programme

All concerned are therefore advised to take necessary measures to prevent Noise Induced Hearing Loss among mine workers and to conduct Noise Level Surveys including Noise Dose Exposure Profile of workers.

No.DGMS(Technical) Circular No.4 of 2007

Dhanbad, dated 11.5.2007

To
The Owners, Agents and Managers of all mines.

Sub: Specifications for X-ray view box and viewing facilities in PME centres

A good quality x-ray view box and proper viewing facilities are absolutely essential for evaluation and classification of chest radiographs in accordance with ILO classification.

It has been observed during inspection of PME centres that x-ray view box and viewing facilities in most PME centres are extremely inadequate. All concern are therefore directed to take necessary action to provide x-ray view box and viewing facilities in PME centres with following specifications:

1. The x-ray view box for screening and evaluation for chest radiographs should be able to accommodate at least four (4) chest radiographs of 14" x17" size.
2. The x-ray view box should be free from partitions and have uniform illumination.
3. The perspex sheet should be atleast 2 mm in thickness and Ivory White in color.
4. The perspex sheet should be replaced whenever it shows signs of discoloration or improper illumination.
5. The x-ray view box should be illuminated by fluorescent tubes and the depths of view box should be such that illuminating tubes are not visible through the perspex sheet.
6. The illumination level at the centre of view box should be at least 500 Lux measured at a distance of 15 centimeters from the view box.
7. The illuminating tubes should be replaced at regular intervals.
8. Wherever voltage fluctuation is a problem, a constant voltage supply mechanism should be provided for the view box.
9. Adequate space should be available so that the radiographs can be viewed from a distance of 15 as well as 100 centimeters.
10. A set of ILO International Classification of Radiograph of Pneumoconiosis, 2000 should always be available at PME centers for screening of chest radiographs.

No.DGMS(Technical) Circular No.5 of 2007

Dhanbad, dated 11.5.2007

To
The Owners, Agents and Managers of all mines.

Sub: Screening of Chest Radiographs for Pneumoconiosis and Silicosis by Using ILO Classification, 2000.

It has been observed during inspection of PME Centers that Chest Radiographs of Initial and Periodical Medical Examinations conducted under Rule 29B of Mines Rules, 1955 are not being screened and classified for Pneumoconiosis or Silicosis in accordance with ILO Classification.

Attention is drawn to the recommendations of 8th and 9th Conferences on Safety in Mines on Occupational Health Surveillance and all concerned are hereby directed to get the chest radiographs of medical examinations of workers screened and evaluated for Pneumoconiosis and Silicosis in accordance with ILO International Classification of Radiographs of Pneumoconiosis, 2000. The standard set of ILO Classification, 2000 can be procured on payment from:

Sales Department
International Labour Organisation
Core-4B, 3rd Floor
India Habitat Centre, Lodhi Road
New Delhi – 110003
Phone No.011-24602101

You are also advised to get PME Medical Officers trained in use of ILO International Classification of Radiographs of Pneumoconiosis, 2000 so that cases of pneumoconiosis and silicosis are detected at an early stage and necessary action is taken for prevention and rehabilitation.

No.DGMS(Technical) Circular No.6 of 2007

Dhanbad, dated 28.5.2007

To
All Owners, Agents and Managers of
Indian Coal and Non-coal Mines.

Sub: Damage of belowground structures due to blast induced vibration in nearby opencast mines.

As you are aware, stability of belowground coal mine openings, coal pillars, water dams and ventilation & isolation stoppings in close proximity to operating opencast mines are likely to be affected from blast induced vibration. In India, presently an increasing trend has been observed to win top coal seams, whether it is virgin or developed and standing on pillars, by opencast method wherever it is economical. The blast dimensions are also large with high explosive density as well as quantum of explosives per blast, generating seismic disturbances which may in turn affect the stability of roof and pillar, support system, ventilation/isolation stoppings, water dams in belowground etc.

As the blast – induced vibration is likely to have an impact on the stability of the belowground structures as mentioned above, it is imperative to assess the magnitude of the effect and formulate a guideline for controlling damages to belowground structures due to surface blasting.

A study in this regard was carried out by CMRI in a number of coal mines under varying geomining conditions. A committee was constituted by the undersigned, comprising representatives from mining industry, academic and research institutions and DGMS to discuss the deliberate on the inferences of CMRI report and forward their suggestions regarding framing guidelines on this issue.

With due consideration of the recommendations made by the committee, the methodology for conducting trial blast, instrumentation strategy for measurement of blast induced vibration, damage etc. and the threshold limits of vibration for different ranges of RMR are finalized, and furnished as a guideline in Annexure-I.

It is suggested that the mine operators will take adequate measures to optimize and blast design parameters in such a way that blast induced vibration in no way endanger the stability and safety of the belowground workings and structures.

Annexure-I

Guidelines for Stability of Belowground Coal Mine Workings due to opencast blasting.

1.0 Introduction

The safety and stability of belowground coal mine openings, coal pillars, water dams, ventilation and isolation stopping in close proximity to operating opencast mines are often endangered from blast induced vibrations. The serious concern is possible damage to above belowground structures from nearby large surface blasts. Any vibration produced rock fall or minor cracks in isolation stoppings would be recognized as an unacceptable hazard.

2.0 Damage Criteria

Peak particle velocity has so far been considered as the best criterion for evaluating blast vibrations in terms of its potential to cause damage. Extensive studies on the problem have established that frequency of the wave has no significant impact on damage to belowground

coal mine openings. The damage to the belowground openings in reference to opencast blasting is generally classified into four categories.

- | | |
|---------------------------|---|
| 1. No appreciable damage: | No visible damage |
| 2. Threshold damage: | Formation of superficial cracks in pillars, roof, isolation and/or ventilation stoppings, air crossings, dams and other belowground structures. |
| 3. Minor damage: | Detachment of loosened chips from roof and/or pillars, opening and lengthening of old cracks, loosening of joints. |
| 4. Major damage: | Fall of rock/coal blocks from roof and/or pillars, cracks in isolation/ventilation stoppings, serious weakening of belowground structures. |

3.0 Responses of roof and pillars

The roof of the belowground working vibrates with higher amplitudes of vibrations compared to pillars. The attenuation of vibration in roof is fast that that in pillars. This indicates that the pillars of belowground working experiences vibration for a longer period compared to the roof.

4.0 Measurement of blast induced vibrations

4.1 Instrumentation

The seismograph selected for monitoring blast-induced vibration shall be simple, light, compact, easily portable, battery operated, digital output, triggering by geophone etc. Tri-axial transducers for recording blast vibrations shall have a linear frequency range from 2 Hz to 250 Hz and capable of recording particle velocity upto 250 mm/s.

4.2 Methodology

The transducer of seismograph shall be placed in the junction of the roof with the help of attachment provided by the manufacturer of the seismograph. It may also be placed in the pillars at 1-2 m below the roof at a depth of 05-06 m inside the pillar. A minimum of a 20 observations corresponding to a minimum of 10 blasts shall be made for better prediction with a high index of determination.

4.3 Predictor equation

The least mean square method of regression analysis shall be used for interpreting the data. Since, the blasting has been performed on surface and the measurements are taken in belowground, the square root scaling law shall be used for analysis and interpretation of data.

5.0 Guidelines on experimental blasting

5.1 Factors

Major factors affecting particle velocity of ground vibration are type and amount of explosives charge used, distance from the blast site to the location of belowground workings, geological, structural and physical properties of the rock that transmits the vibration and blast geometry. Use of safe maximum explosives per delay, in-hole delays with Nonel systems, proper burden, spacing and proper stemming of holes reduces blast induced ground vibrations.

5.2 Plan

A plan showing the opencast workings above the belowground coal mine n different prominent shades shall be prepared. The plan shall incorporate all the belowground structures including isolation/ventilation stoppings, different working faces, water dams etc. Plan should also show the place of and location of vibration monitoring transducers in roof and pillars.

5.3 Study/Observations

In a particular mining area where opencast blasting is to be performed above the belowground structures, experimental blasting shall be carried out, prior to commencement of drilling and blasting operations by any research/Academic Institute for optimizing the blast design parameters to restrict the vibrations in belowground workings within safe limit. The type of instruments, the methodology and predictor norms as recommended in para 4.0 shall be followed in measurement of blast induced vibrations. Based on the study, the safe charges for the safety of belowground structures shall be determined and recommendations should be made in the report.

5.4 Monitoring

In order to ensure effective control over the vibration and related damage there is a need of regular in-house monitoring and the management should train the blasting personnel during the experimental study and start observations on their own during the regular blasting operations.

6.0 Recommended permissible standards of vibrations

6.1 Technical considerations

The degree of damage observed in the belowground openings is influenced by the RMR of the roof rock. Thus, the damage criterion for belowground coal mine workings is based on RMR, because it includes the parameters like layer thickness, structural features, rock weather-ability and strength of the roof rock and groundwater seepage.

6.2 Permissible standards

The junctions of the belowground coal mine workings are more susceptible to blast produced cracking than the galleries away from the junctions. The threshold values of vibration at the junctions in terms of peak particle velocity has been given in Table-1 for different RMR of roof rocks for the safety of belowground coal mine workings. The limiting values of vibration in the pillar are also given below in Table-2.

Table-1: Threshold values of vibration for the safety of roof in the belowground workings for different RMR.

RMR of roof rock	Threshold values of vibration in peak particle velocity [mm/s]
20-30	50
30-40	50-70
40-50	70-100
50-60	100-120
60-80	120

Table-2: Threshold values of vibration for the safety of pillar in the belowground workings for different RMR.

RMR of roof rock	Threshold values of vibration in peak particle velocity [mm/s]
20-30	20
30-40	20-30
40-50	30-40
50-60	40-50
60-80	50

In view of complexities of the problems it is hoped that mine management would take adequate measures as recommended above to ensure that the blasts performed near the belowground workings are carried out with utmost care and precautions. The blast induced ground vibrations should be within the permissible limits as specified above.

No.DGMS(Technical) Circular No.7 of 2007

Dhanbad, dated 6.12.2007

To
The Owners, Agents and Mangers of all coal mines

Sub: Blast-hole drilling for Opencast Coal Mines

It has been observed, during inspection of opencast coal mines, that some of the contractual machinery used for blast-hole drilling operations, are truck mounted drills designed for tube well drilling for sources of water. The following short comings have been observed with these drills, when deployed in opencast coal mines for drilling in overburden and coal.

1. No inbuilt dust collection/suppression system is provided.
2. These water well drills, being truck mounted, require better infrastructure of road and are less stable than Crawler mounted drills, which can march even in muddy roads due to better gripping.
3. Drill operational control switches are located as the rear end of the truck and no cabin is provided to operate it. Operators and helpers are required to be present in dusty atmosphere.

Therefore, for safe drilling operations in opencast coal mines, if tyre mounted drills are deployed, they should comply with the following:

All control switches for all drilling operations including tramping and setup, should be centralized in a properly designed operator's cabin, located at the drilling end. Drill should be provided with hydraulically operated carousel/rod changer. Suitable hydraulic jacks, with controls from operator's cabin, should be provided for leveling of the machine. The drilling machine should have efficient dust collection system.

Only proper type of blast-hole drill machine, designed for mining purpose should be used.

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