

14

OCCUPATIONAL SAFETY AND HEALTH

14.1 The Constitution of India contains specific provisions on occupational Safety and health of workers (Box 14.1). The Directorate General of Mines Safety (DGMS) and the Directorate General of Factory Advice Service and Labour

Institutes (DGFASLI), the two field organisations of Ministry of Labour strive to achieve the principles enshrined in the Constitution of India in the area of occupational safety and health in mines, factories and ports.

Box 14.1	
CONSTITUTIONAL PROVISIONS OF OCCUPATIONAL, SAFETY AND HEALTH	
Article	Constitutional Provision
24	No child below the age of fourteen years shall be employed to work in any factory or mine or engaged in any other hazardous employment.
39(e&f)	The State shall, in particular, direct its policy towards securing: (e) that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength; (f) that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.
42	The State shall make provision for securing just and humane conditions of work and for maternity relief.

DIRECTORATE GENERAL FACTORY ADVICE SERVICE & LABOUR INSTITUTES

THE ORGANISATION

14.2. The Directorate General, Factory Advice Service & Labour Institutes (DGFASLI), Mumbai which is an attached office of the Ministry of Labour functions as a technical arm of the Ministry in regards to matters concerned with safety, health and welfare of workers in factories and ports/docks. It assists the Central Government in formulation and review of policy and legislation on occupational safety and health in factories and ports; maintains a liaison with Factory Inspectorates of States and Union Territories in regard to the

implementation and enforcement of provisions of the Factories Act, 1948; renders advice on technical matters; enforces the Dock Workers (Safety Health & Welfare) Act, 1986; undertakes research in industrial safety, occupational health, industrial hygiene and industrial psychology etc.; and provides training mainly in the field of industrial safety and health including one year Diploma Course in Industrial Safety, three-months Post Graduate Certificate Course in Industrial Health (Associate Fellow of Industrial Health (AFIH) and six-weeks course in Industrial Hygiene Techniques.

14.3 The structure of DGFASLI organisation comprising the headquarters; five Labour Institutes and Inspectorates Dock Safety in 12 Major Ports, is given as under:—

The Headquarters in Mumbai comprises the following divisions:

- Factory Advice Service
- Dock Safety
- Construction Safety
- Awards

14.4. The Central Labour Institute in Mumbai started working from 1959. The Institute was shifted to the present premises in February 1966 and all the disciplines functioning at different locations under the Chief Advisor of Factories were brought under one roof. Over the past 37 years, the Institute has grown and assumed the status of a major National Resource Centre with the following divisions:

- Industrial Safety
- Industrial Hygiene
- Industrial Medicine
- Industrial Physiology
- Industrial Psychology
- Industrial Ergonomics
- Environmental Engineering
- Staff Training
- Small Scale Industries
- Productivity
- Major Accident Hazards Control
- Management Information Services
- Safety and Health Communication

14.5 The different divisions at the Institute undertake activities such as carrying out Studies and Surveys, organising training programmes, seminars

and workshops, rendering services such as technical advice, Safety Audits, testing and issuance of performance reports for personal protective equipment, delivering talks, etc. Some of these facilities that are not available in the Regions, are extended to the regions as and when necessary.

14.6 The Regional Labour Institutes (RLIs) located in Kolkata, Chennai and Kanpur are serving the respective regions of the country. Each of these institutes have the following divisions/sections:

- Industrial Safety
- Industrial Hygiene
- Industrial Medicine
- Staff Training and Productivity
- Communication
- Major Accident Hazards Control
- Computer Centre

Regional Labour Institute in Faridabad is in the formative stage of being set up. An office, with three officers on deputation from the Central Labour Institute, Mumbai, has been established in a rental premises. This would serve the Northern states/UTs viz. Delhi, Punjab, Haryana, J & K, and Himachal Pradesh, in more effective and direct manner as these are being presently looked after by the Regional Labour Institute, Kanpur, which is having a large number of states to extend its services.

14.7 The Inspectorates of Dock Safety are established at 12 major ports of India viz. Kolkata, Mumbai, Chennai, Visakhapatnam, Paradip, Kandla, Mormugao, Tuticorin, Cochin Jawaharlal Nehru Port and New Manglore.

Staff Strength

The manpower inventory of the organisation as on 30.09.2002 is given below:

Units	Technical		Administrative		Total	
	Sanctioned	Working	Sanctioned	Working	Sanctioned	Working
Headquarters	15	12	51	46	66	58
CLI.Mumbai	107	77	107	94	214	171
4 RLIs*	85	68	105	89	190	157
Dock-Safety Inspectorates	24	16	36	30	60	46
Total:	231	173	299	259	530	432

* The posts at RLI, Faridabad are yet to be created.

14.8 ACTIVITIES

Safety in Factories

Comments/clarifications etc. on the provisions of the Factories Act, 1948 provided to CIFs, State Govts, Ministry of Labour, Factories, etc. on the following topics:

- (a) Overtime allowance under Section 59 of the Factories Act, 1948
- (b) Interpretation of the term 'Power' under the Factories Act, 1948
- (c) Overcrowding
- (d) Testing of Wire Ropes
- (e) Definition of the term "factory"
- (f) Procedure for rule making by Union Territory under Section 112 of the Factories Act 1948, and for laying these rules before the State Legislation as required under Section 115.
- (g) Whether a working professional without qualification and experience as prescribed under Section 41-C of the Factories Act, 1948 and the rules notified there under can be appointed as competent supervisor.
- (h) Notice of accident under Section 88 of the Factories Act, 1948, and whether police has right to seek information regarding fatal accident from factory inspector.
- (i) Electrical Sub-station as Factory.
- (j) Repealing and Amending Act, 2001
- (k) Duties of medical inspector of factories.

International/ILO instruments on Safety and Health:

- Prepared comments regarding report V (2B) on proposed protocol to the Occupational Safety and Health Convention 1981 and the proposed recommendations concerning list of occupational diseases and recording and notification of occupational accidents and diseases.

Others:

- Reviewed draft amendment of Part 7 (Construction Safety) and Part-8 (Building Service Section-lighting and

Ventilation) of the National Building Code of India, sent by BIS.

- Prepared a gist of recommendations of the High Power Committee on Management of Hazardous Wastes, for identifying the action areas by various departments of Central & State Government. A separate list of recommendations, indicating the involvement of Ministry of Labour/CIFs was also prepared.
- Prepared proceeding of the Workshop on "Safety, Health & Environment – Priority Concern for Workers Representatives in the Port Sector" and sent to ILO delegates and other agencies.
- A safety survey of Nagaon Paper Mills of Hindustan Paper Corporation Ltd., Kagagnagar, as desired by the Chairman, Parliamentary Standing Committee on Labour & Welfare Assam was conducted on 2nd & 3rd July, 2002.

Training

14.9 In keeping with the organisation's pioneering role in the field of industrial safety and health, a large number of **training programmes** were conducted. Joint participation of management personnel and Trade Union Leaders of the same organisations was a unique feature in some of these programmes.

- 44 Seminars/Workshops, and longer duration programmes were conducted for 1022 participants from 200 organisations.
- 17 Need based in-plant training programmes for 375 employees at various level in Industry were conducted.
- 33 Short duration (1-2 days) programmes for 645 participants from 112 organisations were conducted.
- 133 Appreciation programmes were conducted for 2885 beneficiaries at the permanent Safety, Health & Welfare Centres of the four Labour Institutes, in Mumbai, Kolkata, Chennai and Kanpur.
- 30 Displays of Mobile Safety Exhibition benefiting 25850 factory workers were organized.

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14.10 DGFASLI is also conducting following **Professional programmes**:

- Advanced Diploma in Industrial Safety, at CLI Mumbai for academic year 2002-03 commenced from 09.07.2002 with 31 students from 30 organisation.
- Post Diploma Course in Industrial Safety at RLI Kanpur for academic year 2002-03 commenced from 29.07.2002 with 20 students from 20 organisation.
- Diploma Course in Industrial Safety at RLI Kolkata for academic year 2002-03 commenced from 22.08.2002 with 13 students from 10 organisation.

- Diploma Course in Industrial Safety at RLI Chennai for academic year 2002-03 commenced from 22.07.2002 with 32 students from 30 organisation.
- The 10th Associate Fellow in Industrial Health (AFIH) a three months certificate course, commenced from 1st April, 2002. The course was attended by 51 Medical officers from 51 organizations at CLI Mumbai and Ist AFIH course was also conducted at RLI Kolkata and Chennai.

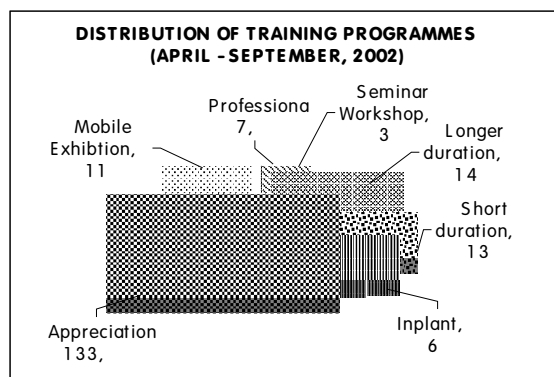
Table 14.1 gives the details of the targets and achievements pertaining to **training programmes** for the year 2002-2003:

TABLE 14.1
TARGETS AND ACHIEVEMENTS FOR THE TRAINING PROGRAMME
WORKSHOPS, ETC. YEAR 2002-03

Activity	ACHIEVEMENTS April - Sept., 2002						TARGETS (Forecast Activity) April'2002 - March'2003.					
	CLI Mum- bai	RLI Kol- kata	RLI Chen- nai	RLI Kan- pur	RLI Farida- bad	Dock Safety	CLI Mum- bai	RLI Kol- kata	RLI Chen- nai	RLI Kan- pur	RLI Farida- bad	Dock Safety
Training												
i) Seminars/ Workshops	5	2	1	-	-	-	8	2	2	2	-	2
ii) Diploma in Industrial Safety	1	1	1	1	-	-	1	1	1	1	-	-
iii) AFIH	1	1	1	-	-	-	1	1	1	-	-	-
iv) Over 2 Days Programmes	15	3	4	7	1	6	47	15	10	12	7	10
v) 1-2 Day duration Programmes	8	5	1	1	-	18	18	12	8	12	-	40
vii) Appreciation Programmes	106	4	20	3	-	-	336	48	110	12	-	-
viii) In-plant Programmes *	13	-	2	2	-	-	-	-	-	-	-	-
ix) Factory visits of Mobile Safety Exhibition Vans	11	-	9	10	-	-	30	-	-	30	-	-

* Targets are included at Sr. No. (iii) and (iv)

A Pie chart at Box – “A” shows the details of the training activities during the period April – 30th Sept., 2002.



Studies and Surveys

14.11 **National Studies and Surveys** are undertaken to ascertain status of working conditions and standards of safety in select group of industries and operations.

The following **National Studies and Surveys were completed:**

- Safety, Health and Work Environment in Pesticide Industry.
- Safety and Environmental Condition in Stone Crushing units .
- Survey in Salt Industry.

14.12 In addition following **National Studies/Surveys are under progress:**

- Safety Audit in Major Ports.
- Ergonomics study on Beedi workers
- Occupational Health Profile of VDT Workers.
- Status of Occupational Health and Environment in Slate Pencil Industry.
- Survey of Occupational Safety and Health Management System (OSH-MS) implementation in Indian Industry.
- National Study in Stainless Steel Rolling Mills of Jodhpur.

- Port Safety Committee Revisited – a National Follow-up Study on Structure and Functioning of the Port Safety Committees.

14.13 **Unit level consultancy studies** are carried out at the request of the management and reports are submitted for implementation of recommendations for further improvement in concerned factories. Consultancy studies were carried out in following areas:

- Safety Audit - 13
- Environmental Assessment - 6
- Noise - 5
- Assessment of Airborne Contaminants - 1
- HAZOP Study - 1
- Assessment of Occupational Health Status - 2
- Illumination - 1
- Industrial Hygiene - 1
- Dust level - 1
- Ventilation - 1

Table 14.2 gives the **institute-wise** details regarding targets for 2002-2003 and achievements up to September, 2002.

Sl.No.Office	Completed April, 2002 to Sept., 2002	Projected (Forecast) Oct. 2002 to March, 2003
1. CLI, Mumbai	19	10
2. RLI Kolkata	3	1
3. RLI, Chennai	6	1
4. RLI Kanpur	4	3
5. RLI, Faridabad	-	-
Total:	32	15

National Referral Diagnostic Centre

48 suspected cases of occupational diseases, such as, silicosis, occupational dermatitis etc. referred to the National Referral Diagnostic Centre, were evaluated and opinion given.

- Establishment of a Regional Labour Institute in Faridabad.
- Improvement and strengthening of enforcement and implementation system for safety and health of dock workers in major ports.

Schemes and Projects:

14.14 **Continued Plan Schemes:** The following Plan Schemes are continued from the Ninth Five Year Plan to the Tenth Five Year Plan and are in operation at DGFASLI.

- Development of Safety and Health Information System and Data Bank.

The main objectives of above Schemes are strengthening and augmenting infrastructural facilities available at the headquarters, the CLI, the three RLIs and setting up a new RLI at Faridabad with a view to fulfilling the aims of the DGFASLI organisation more effectively.

The targets and achievements for the continued Plan Schemes in operation are given in Table 14.3 (A)

TABLE – 14.3(A): ACHIEVEMENT OF THE ACTIVITIES UNDER PLAN SCHEME OF DGFASLI FROM APRIL TO SEPTEMBER, 2002

Sl. No.	Name of the Scheme – its main activities	Annual Target	Achievement upto Sept., 2002 (i.e. 1.4.2002 to 30.09.2002)	Forecast For year (Oct. 2002 to Mar. 2003)
1. Development of Safety and Health Information system and data bank				
A. Development of OS&H Data Bank				
(i)	Updation of DGFASLI website	♣	♣	♣
(ii)	National inventory on OSH information	4	-	4
(iii)	Creation of databases	-	1	-
(iv)	Development of application programs	-	1	-
(v)	Modification of application programs	-	2	-
1. Dissemination of occupational safety & health information				
(i)	INDOSHNEWS publication	♣	1	
(ii)	Material Safety Data Sheets (MSDS)	♣	21	1
(iii)	Abstract on safety & health literature	♣	-	
(iv)	Microfiche reference	♣	2	
(v)	Books and journals	♣	35	
(vi)	Awareness service on current events	♣	5	
2. Establishment of a new Regional Labour Institute at Faridabad				
(i)	No. of 1-2 days prog.	4	-	4
(ii)	No. of longer duration prog.	1	1	-
(iii)	Small scale programmes	1	-	1
(iv)	Tech. Guidance with MAH	♣	-	♣
(v)	No. of Studies/Surveys/Audits	1	-	1
(vi)	No. of Seminars/Workshops	-	-	-
(vii)	No. of factories covered under MSE van.	-	8	

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3. Improvement of strengthening of enforcement and implementation system for safety and health of dock workers in major ports			
(1) Conduct of specialised training programmes / seminars / workshops for Inspectors of Dock Safety,	10*	6**	10
(2) Conduct of specialised studies & surveys /Audit/ National Projects	2*	-**	2
(3) Enforcement activities (Inspection of ships, container ships, tankers, loose gears, docks, container yards, hazardous installations, isolated storages and pipelines, ICDs etc.)	1500*	626**	
(4) Framing of Model Rules for enforcement by State Governments in respect of minor and intermediate ports in the country.	As per request from state govt.	♣	♣
(5) Development of software for use at Inspectorates and Major Ports.	Continuing process	♣	♣

* Subject to the filling up the post approved by SFC during the Year

** All the above activities are being carried out by non-plan officers

♣ Can't be quantified

New Plan Scheme for Tenth Five Year Plan: During the period the following **new Plan Scheme** were formulated and submitted for approval:

- Strengthening of Occupational Safety and Health Strategies in Priority Hazardous Chemical processes
- Setting up of a National Board on Occupational Safety & Health
- Competence Enhancement of Officers of DGFASLI and CIFs for Improving Occupational Safety & Health
- Competence Building of Enforcement

Agencies and Development of Enforcement Strategies and Guidelines (Unorganized Sector)

- Design and Execution of National Level Awareness Campaign in the Identified Seven Segments of Unorganized Sector.

The objectives of these schemes are strengthening the occupational health and safety system in India, through competence enhancement of various agencies, implementation of focused sector specific strategies and improvement of occupational safety and health in unorganized sector.

The **targets and achievements for the new Plan Schemes** are given Table 14.3(B):—

TABLE: 14.3(B)

Sl. Name of the Scheme-its main activities No.	Annual Target	Achievement upto Sept., 2002 (i.e. 1.4.2002 to 30.09.2002)	Forecast For year (Oct. 2002. to March 2003)
1. Strengthening of Occupational Safety & Health Strategies in Priority Hazardous Chemical Processes			
i) Process Safety Study in hazardous industries	10	1	9
ii) Occupational Safety & Health study	10	1	9
iii) OSH study	10	2	8
iv) Industrial Hygiene study	12	1	11

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Sl. No.	Name of the Scheme-its main activities	Annual Target	Achievement upto Sept., 2002 (i.e. 1.4.2002 to 30.09.2002)	Forecast For year (Oct. 2002. to March 2003)
v)	Training Programmes on MAHC/ Chemical Safety	15	1	14
vi)	Testing of PPE	300	70	230
vii)	Training Programme on Industrial Hygiene Technique	1	1	-
viii)	AFIH Course (3 months)	2	2	-
ix)	Training programme on Occupational Health for paramedical staff/Nurses	1	1	-
x)	Advance training programme on Occupational Health & Environmental Medicine	2	-	2
2. Setting up of a National Board on Occupational Safety & Health *				
i)	Establishing National Board on Occupational Safety & Health	-	-	-
ii)	Developing model guidelines for approval of training course by CIFs as required under Section 41-C and 111-A of the Factories Act, 1948	-	-	-
3. Competence Enhancement of Officers of DGFASLI and CIFs for Improving Occupational Safety & Health *				
(i)	Study Tour abroad	2	-	-
(ii)	Foreign Training	-	-	-
(iii)	In-Country training (2 prog.)	40 officers -	-	-
(iv)	Producing of video films	-	-	-
(v)	Training Manuals	-	-	-
(vi)	Production of slides	-	-	-
(vii)	Production of CDs	-	-	-
(viii)	Preparation of Guidelines, code of practice	-	-	-
4. Competence Building in Enforcement Agencies and Development of Enforcement Strategies and Guidelines for unorganized Sector.				
(i)	Region-wise Seminar to identify target groups & their training needs	2	-	2
(ii)	Region-wise training programme for trainers on OSH strategies in unorganized sector	2	-	2
5. Design and Execution of National Awareness Campaigns in the Identified Seven Segments of the unorganized Sector.				
i)	National Seminar	1	-	1
ii)	Regional Seminars	2	-	2

Note: - "--"= Nil

* These Plan Schemes are under recommendation of Ministry of Labour.

Major Accident Hazards Control:

14.15 The Major Accident Hazards Control Advisory Division at the Central Labour Institute, Mumbai advises State Governments and MAH units on control of Major Accident Hazards, preparation of emergency plans, Safety Audit, Risk Assessment etc.

- MAH units were identified bringing the total to 1423 MAH units.
- One hazardous chemical identified bringing the total to 155 Hazardous Chemicals
- Emergency Plan available 1026

National Seminars/Workshops

14.16 Twenty two Seminars/Workshops were conducted for 662 delegates during the period, out of which few of them are highlighted as under:

- The Small Scale Cell, CLI Mumbai conducted training workshop on “Higher Productivity and a Better Place to Work” at Bhosari Industrial Estate, Pune on 6th April, 2002 in association with Directorate of Industrial Safety & Health Pune region and Maratha Chambers of Commerce, Pune. Eighty Owners/Managers of different Small & Medium Scale units attended the workshop. The inaugural session of the workshop was presided by Shri Deval, Chairman of Small Scale Industries Wing of Maratha Chambers of Commerce. Shri J.M. Pare, Joint Director, DISH, in his speech, established the importance of Safety at Workplace to attain higher productivity. An officer of the Small Scale Cell CLI described the objective and methodology of the Workshop, and Director-in-Charge of the Small Scale Cell, CLI inaugurated the workshop.
- The ILO/Japan National workshop on Occupational Safety & Health – Management System (OSH-MS) was held at Central Labour Institute from 21-23 May 2002. The programme was inaugurated by Shri K. Chandrumauli, IAS, Joint Secretary, Ministry of Labour, Government of India. The workshop was attended by 24 participants from Government, Employers organisations and Trade Unions. The workshop was

also attended by 4 officers of CLI and DGFASLI.

Management Information Services

14.17 The CLI is equipped with microfiches and international softwares such as CCINFO discs, CIS bibliographic database, NIOSH Registry of Toxic Effects of Chemical Substances and information on Chemicals of Environmental and Health Concern (CESARS), etc. published as CDROMs by the Canadian Centre of Occupational Safety and Health. It also has WHAZAN and EPACHEM softwares. Microfiche reader Services are provided through a well-equipped library having over 25,000 books and technical journals. NICNET connectivity through E-Mail service has been established in CLI. Also Indian Occupational Safety & Health Network (INDOSHNET) is established by the Ministry of Labour, Government of India with DGFASLI as nodal agency and CIS Centre as the Network facilitator.

- MSDSs numbering 62 supplied
- 248 Chemicals searched on CCINFO CD-ROMs.
- Two issues of newsletter INDOSHNEWS No.7 Vol. No. 1 & 2 were published.
- The inventory of MAH installations and hazardous chemicals updated.

DGFASLI Website:

14.18 The DGFASLI website was launched in January 2001. The website www.dgfasli.nic.in is a source of information on various safety and health related matters such as database on abstract on OS&H studies, reports; information on advisory services rendered by DGFASLI in the area of testing of respiratory and non-respiratory personal protective equipment, flame proof equipment approval, material safety data sheets and National Referral Diagnostic Centre, etc. The INDOSHNEWS newsletters of DGFASLI is also available in the website. The training programmes calendar for all the labour institutes, announcement on National Safety Awards & Vishwakarma Rashtriya Puraskar awards, AFIH course, Diploma Course in Industrial Safety along with the application forms are available on the website. The website enables users to access other useful websites related to safety and health and

get the national directory of organisation-profile of agencies engaged in the field of safety and health. The website also contains the Factories Act 1948 and the Model Rules framed there under and also the Dock Workers (Safety, Health and Welfare) Act, 1986 etc. The users can give his comments and requirements on the website itself so that the website can be made more useful. The Website is updated by using Remote Publishing system.

During the period the following information were added on the Website:

- Statistics of Factories, Docks, List of Chief Inspectors of Factories , List of Dock Safety Officers.
- Two INDOSHNEWS issues
- Two Study-Surveys reports
- List of Awardees for Vishwakarma Rashtriya Puraskar and National Safety Awards from 1993 – 2000

Safety and Health Communication

14.19 Recognizing the effectiveness of good audiovisual aids in imparting training, a modern Audio-Visual Studio was set up at CLI in 1992 under USAID project. For indoor shooting, the studio has a recording room along with a flexible lighting system, and it is equipped with an editing suite, an editing recorder, 8-channel audio mixer, and a video typewriter.

- Video feedback as well as still photographic coverage for Fire Safety Week, May Day, celebrations, ILO Workshops/training programmes & Hindi workshop/Hindi Mah celebration during the month of September, 2002 were taken.
- U-matic video and still photographic coverage was provided during Vishwakarma Rashtriya Puraskar and National Safety Awards function held in Delhi.

Industrial Safety, Health & Welfare Centre

14.2. Industrial Safety, Health and Welfare Centre of the Central Labour Institute and Regional Labour Institutes promote the hazard communication through display of panels, models, charts, graphs, write-ups etc. which is visited by workers, executives from industry and delegates from other

countries. To provide art support for the production of video films, publicity material such as banners, safety posters, and technical literature, etc., the CLI has an Art Studio staffed with specialists in the field and equipped with the necessary facilities.

- 104 Safety & Health Appreciation programmes were conducted for 2695 visitors from 257 organisations.

Testing of Personal Protective Equipment

14.2. The respiratory and non-respiratory personal protective equipment testing laboratories at Central Labour Institute, Mumbai undertake performance tests of Canisters, Masks, Helmets, Safety Shoes, Safety Goggles, Safety Belts, Welding Glasses etc. Following equipments were tested to ascertain their performance characteristics so as to meet relevant BIS standards.

- 96 dust respirators, canisters, dust filters etc.
- 130 non-respiratory equipment such as helmets, safety shoes, etc.

Dock Safety:

14.22. The Dock Workers (Safety, Health and Welfare) Act, 1986 was enacted on 14th April, 1987. The Dock Workers (Safety, Health and Welfare) Rules, 1990 and Regulations, 1990 were framed under the new Act. As a result of introduction of these new set of statutes, the scope of dock work has considerably increased covering more number of workers employed in ports, who were hitherto not covered for their safety, health and welfare.

In addition, the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 framed under the Environment (Protection), Act, 1986 are also enforced by DGFASLI through the Inspectorates of Dock Safety located in the major ports of India.

Under the Dock Workers (Safety, Health & Welfare) Act, 1986, the Director General is the Chief Inspector of Dock Safety for all the major ports.

Table 14.4 shows the year-wise inspections carried out by the Dock Safety Inspectorates from 1998-99 to September 2002.

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TABLE - 14.4 DETAILS OF INSPECTION OF SHIPS AND OIL TANKERS DURING THE YEAR 1998-99, 1999-2000, 2000-01, 2001-02, APRIL 2002-SEPTEMBER 2002 & FORECAST ACTIVITY FROM OCTOBER 2002 – MARCH 2003.

Name of the Port Mar.,	No. of ships and oil tankers inspected					
	1998-99	1999-00	2000-01	2001-02	2002 (Apr. to Sept.)	Forecast Oct. 2002 to 2003
Mumbai	146	111	117	107	92	100
Kolkata	226	247	193	218	150	150
Chennai	127	114	115	194	59	100
Kandla	174	201	197	175	84	100
Mormugao	86	58	103	100	53	60
New Mangalore	84	83	126	129	52	60
Visakhapatnam	156	162	104	104	67	60
Tuticorin	154	126	182	144	89	100
Cochin	63	63	70	70	39	50
Paradip	249	278	138	114	38	50
J.N. Port	0	0	0	0	0	20
Total	1465	1443	1345	1355	723	850

Table 14.5 shows year-wise reportable accidents in ports from 1998–Sept., 2002.

TABLE - 14.5 REPORTABLE ACCIDENTS IN PORTS

PORT	1998-99		1999-00		2000-01		2001-02		2002 Apr-Sept.	
	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal
Mumbai	62	6	58	5	48	4	49	7	27	1
Kolkata	52	2	50	2	44	4	40	4	19	0
Chennai	33	5	32	4	23	8	12	5	8	3
Kandla	9	2	6	3	4	1	15	6	3	0
Mormugao	22	1	16	0	16	0	15	0	9	1
New Mangalore	18	2	6	1	13	0	11	1	3	0
Visakhapatnam	37	2	27	2	13	2	2	1	4	0
Tuticorin	17	3	18	6	17	0	12	2	5	3
Cochin	33	1	35	1	29	0	18	0	8	1
Paradip	1	0	2	1	2	1	3	1	0	0
J.N. Port	0	0	0	0	0	0	15	2	5	3
Total	284	24	250	25	209	20	192	29	91	12

The pie chart at Box - "B" give reportable accidents Total accidents in ports. inspection of testing facilities

Approval of Flame proof Electrical Equipment

14.23 As per the BIS standard IS: 2148-1981 DGFASLI is the approving agency for Flame Proof Electrical Enclosures for their use in hazardous atmosphere.

- 28 Applications received for approval
- 123 approvals were issued to 25 manufacturers
- 11 manufacturing units were visited for

Representation on BIS Committees:

14.24 Officers of DGFASLI represented on several BIS Committees/Sub-committees dealing with Safety and Health matter. Publication / Dissemination of Information

14.25 Papers Published

- Management of Occupational Safety & Health in the State of Kerala in

INDOSHNEWS, Vol 7 (1) Jan-March 2002

- Psychosocial and Other Related Factors Contributing to Road Accidents in Ports in INDOSHNEWS, Vol 7 (1) Jan-March 2002.
- Health Hazards in the working environment of Industries & Role of DGFASLI, Mumbai at ITRC, Lucknow.

14.26 Papers Presented

- Development and Operation of INDOSHNET on 10th National Conference of HSE Challenges in the Era of Globalisation at Vigyan Bhavan, New Delhi on 9-11th April, 2002.
- Medical Surveillance in the industries in Golden Jubilee Conference on Occupational Health, Mumbai – 2002 at Hotel Tajmahal, Mumbai on 20.04.2002.
- Occupational Health status of workers exposed to female hormones in a Pharmaceutical Industry in Golden Jubilee Conference in Occupational Health, Mumbai – 2002 at Hotel Tajmahal, Mumbai on 20.04.2002.
- Self Regulation –the Ultimate Goal of Statutes in 10th National Conference of HSE Challenges in the Era of Globalisation at Vigyan Bhavan, New Delhi on 9-11th April, 2002.
- Medical Aspects of Major Hazard Control – Medical Emergency Response Planning in Seminar on “Emergency Planning & Preparedness in Hazardous Industries” at Kolkata.
- Training & Education for Emergency Planning & Preparedness in Seminar on “Emergency Planning & Preparedness in Hazardous Industries” held at Kolkata.
- Occupational Lung Diseases at Govt. Medical College, Nagpur
- Occupational Burn out: Psychological Perspective at Indian Association of Occupational Health, Mumbai
- Noise in Industry at Aliyavarjung Institute for the hearing handicapped, Mumbai

14.27 National Safety Awards and Vishwakarma Rashtriya Puraskar

The Directorate General is entrusted with the operation of the scheme of Vishwakarma Rashtriya Puraskar (VRP) and the National Safety Awards (NSA). The VRP is awarded to workers in factories, mines, plantations and docks in recognition of outstanding suggestions made by them leading to increased productivity, safety and improvement in the general efficiency of the undertakings. National Safety Awards are given in recognition of good safety performance on the part of the industrial establishments. Factories covered under the Factories Act, 1948 and the employers covered under the Dock Workers’ (Safety, Health and Welfare) Act, 1986 are eligible for participation in this scheme.

14.28 The Awards distribution function for Vishwakarma Rashtriya Puraskar and National Safety Awards for the year 2000 was held on 17.09.2002 at Vigyan Bhavan, New Delhi and the awards were presented to the awardees by Hon’ble Union Minister for Labour Dr. Sahib Singh Verma and the Hon’ble Minister of State for Labour and Employment Shri Ashok Kumar Pradhan. Out of 184 applications received for Vishwakarma Rashtriya Puraskar- 2000, 18 awards were given to 58 awardees and out of 494 applications received for National Safety Awards, 2000, 72 awards given to 54 number of awardees. .

Promotion of National Policies

14.29 May Day Celebration:

- May Day was celebrated by organizing a three day training programme on “Safety & the Law” at RLI Kanpur. The programme was attended by 34 officers from 11 organisations
- May Day was celebrated by RLI Chennai Shri R. Balaraman, Dy. Commissioner of Labour, Govt. of Tamilnadu & Dy. Director Tamilnadu, Institute of Labour Studies, Chennai were the Guests of the celebration.
- May Day was celebrated on 1st May 2002 at RLI Kolkata. Shri. Samar Chakraborty, General Secretary, West Bengal Pradesh National Trade Union Congress, delivered a lecture on “Significance of May Day in Present Day Context”. It was attended by about 65 officers/Staff Members/Students of the RLI Kolkata.

Productivity Day:

14.30 The productivity day was celebrated at the RLI Chennai on 19th March, 2002. All officers and staff participated in the celebration. S/Shri Paneerselvam and Mahalingam, Jt. Chief Inspectors of Factories, Government of Tamilnadu addressed the participants on the “Role of Safety and Health for Productivity in the office”.

14.31 Promotion of Hindi as an official Language:

- Rajbhasha week from 13th september 2002 to 20th September 2002 and Rajbhasha day on 16.09.2002 were celebrated at RLI Kanpur.
- “Hindi Mah Celebration”, at CLI was inaugurated by the Director General on 2nd September, 2002. Nine different competitions were conducted. A month long celebration was conducted from 2nd to 30th September, 2002.

14.32 Visits of VIPs:

1. Dr. Paul E. Olson, From 3M, U.S.A. at DGFASLI – RTL, CLI, Mumbai.
2. Mrs. Rama Murali, Joint Secretary & Finance Advisor Ministry of Labour, Government of India, New Delhi at DGFASLI April, 2002.
3. Mr. S.S. Rugge, Lt., Col and one officer from Ministry of Defence at DGFASLI, RTL & IHL CLI Mumbai April, 2002.
4. Deputy Secretary Labour Ministry, Director General of Director General of Mine Safety and Deputy Director General of BIS, New Delhi at, DGFASLI, RTL & IHL CLI Mumbai May, 2002.
5. Ho’ble Minister of State, Ministry of Labour, Government of India, at DGFASLI Mumbai July, 2002.
6. Dr. Vijaykumar, Vice President, Technology and Marketing, Air Techniques International (ATI), USA, & Mr. Divyendu Pundhir, Division Manager (OHES Divn.), Birla 3M Ltd., visited RTL.
7. Dr. P. D. Shenoy, IAS, Secretary to the Govt. of India, Ministry of Labour visited DGFASLI., August, 2002.

8. Private Secretary to Hon’ble Union Minister of Labour visited DGFASLI. on 28th August, 2002.
9. Mr. Richard A. Morris, Manager, Occupational Health & Environmental Safety 3M Asia Pacific Pvt. Ltd., USA visited Respiratory Testing Laboratory of CLI, Mumbai September, 2002.

Fire Safety Week:

14.33 The Fire Safety Week was observed from 15th to 19th April, 2002 at Central Labour Institute, Mumbai. The programme was inaugurated by Senior officer of DGFASLI on 15th April, 2002 at Central Labour Institute Auditorium. The inaugural session was followed by Technical Session in which two resource persons spoke on the subject of Fire. Shri B. S. Khade, Divisional Fire Officer, Mumbai Fire Brigade, Mumbai spoke on “Fire Safety”. Shri A. D. Ghorpade, Manager (Fire and Safety), Hindustan Petroleum Corporation Ltd., Mumbai spoke on “Safe use of LPG and Safety in Offices”. The concluding session of the Fire Safety Week was observed on 19th April, 2002, in which the Director General, DGFASLI chaired the session. Two speakers, namely Shri L. Bhaskaran, Assistant Manager, Loss Prevention Association of India, Mumbai and Shri S. S. Mankar, Ex-Manager (Safety), Hindustan Organic Chemicals Ltd., Rasayani spoke on “Fire Incidents and Case Studies” and “Fire Fighting System and Mock Drill”, respectively. The session was attended by the officers and staff of DGFASLI., CLI and IDS and Pay & Accounts Office and CPWD.

DIRECTORATE GENERAL OF MINES SAFETY

14.34 Mineral constitutes the backbone of the economic growth of any nation and India has been eminently endowed with this gift of nature. Progressive industrialization witnessed the rise in demand and hence production of various minerals. Growth of mining under the impact of successive Five Year Plans has been phenomenal. To take care of the enhanced targets, mechanization of mining activities has taken place. Table 14.6 shows the increasing trends of some important parameters like number of mines, value of minerals mined, aggregate machine power installed and explosive used. Large-scale mechanization lead to higher risk to

health and safety of work persons deployed in mines. Under the Constitution of India, Safety, Welfare and Health of workers employed in mines are the concern of Central Government (Entry 55 – Union List – Article 246). The Mines Act, 1952 and the Rules and Regulations framed thereunder regulate the objective. These are administered by the Directorate-General of Mines Safety (DGMS) under the Union Ministry of Labour. Apart from administering the Mines Act and Subordinate Legislations thereunder, DGMS also administers other allied legislation. These are as follows:

- Metalliferous Mines Regulations, 1961.
- Oil Mines Regulations, 1984.
- Mines – Rules, 1955.
- Mines Vocational Training Rules, 1956.
- Mines Rescue Rules, 1985.
- Mines Crèche Rules, 1966.
- Coal Mines Pit Head Bath Rules, 1959.

Indian Electricity Act, 1910

- Indian Electricity Rules, 1966

Allied Legislation

- Factories Act, 1948: Chapters III & IV
- Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989 under

Mines Act, 1952

- Coal Mines Regulations, 1957.
- Land Acquisition (Mines) Act, 1885

- The Coal Mines (Conservation & Development) Act, 1974
- Environmental Protection Act, 1986

Table 14.6

Growth of Mining Activities in India

Year	No. of reporting mines			Value of minerals (in Million Rupees)			Aggregate H.P. (in 000s)			Explosives used (in 000 tonnes)	
	Coal	Metal	Oil	Coal	Metal	Oil	Coal	Metal	Oil	Coal	Metal
1951	893	1810	-	505	235	N.A.	188	83	N.A.	1.5	1.0
1961	848	2323	-	1141	487	N.A.	438	159	N.A.	4.5	3.8
1971	781	1995	13	2543	1080	756	732	282	25	12.3	9.4
1981	496	1768	8	18114	3620	2748	1841	925	35	46.3	15.3
1991	561	1787	24	79794	19076	18533	4292	1519	507	124.2	40.3
1996	576	1872	32	157474	36521	37388	5300	1877	523	207.8	47.2
1997	580	1834	34	193877	43758	40813	5314	2016	570	232.7	43.4
1998	594	1864	37	205307	45286	53136	5399	2020	602	247.0	47.1
1999	598	1957	44	219101	46415	83982	5660	2147	744	267.6	49.8
2000	595	2022	45	234531	53111	92954	5561	2371	757	290.5	57.0
2001	564	1931	40	243046	50957	81545	5682	2119	659	297.4	53.2

Note : 2001 data are provisional.

ORGANISATION SET-UP

14.34 The Directorate General of Mines Safety is a subordinate office under the Ministry of Labour with its Head Quarters at Dhanbad (Jharkhand) and is headed by the Director-General of Mines Safety. At Head Quarters Director General is assisted by specialist staff-officers of Mining, Electrical and Mechanical Engineering, Occupational Health, Statistics, Law, Survey, Administration and Accounts

discipline. The Head Quarters also has a Technical Library and S&T Laboratory as a back-up support to the organisation. Field organisation has a two-tier network. The entire country is divided into Six Zones, each under the charge of Deputy Director-General. There are three to four Regional offices under each zonal office. Each Region is under the charge of Director of Mines safety. There are in all 21 such Regional offices. Four sub-regional offices have also been set up in important areas of concentrated mining activities away from Regional offices. Each of these is under charge of Deputy Director. Besides having

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inspecting officers of Mining cadre in each Zone, there are officers of Electrical and Mechanical Engineering and Occupational Health disciplines. DGMS has a total sanctioned strength of 1070 persons with 928 in position as indicated below:

CATEGORY	SANCTIONED IN POSITION STRENGTH	STRENGTH
GROUP-A	177	143
GROUP-B	106	94
GROUP-C	505	458

GROUP-D	282	233
TOTAL	1070	928

TREND OF ACCIDENT

14.35 Trend in fatal accidents and serious accidents in both coal as well as non-coal mine is more or less decreasing (Table 14.7). Cause-wise distribution of fatal accidents is also given in Table 14.8 and Table 14.9 with respect to coal and Non-Coal mines. Fall of roof and sides remained the biggest contributor to fatal accidents in coalmines, followed by Dumpers and Trucks. The latter

group had the largest share of fatal accidents in non -coal mines.

Table 14.7

Trend of Accidents in Mines

Year	Number of Accidents in Coal Mines			Number of Accidents in Non- Coal Mines		
	Fatal	Serious	Total	Fatal	Serious	Total
1995	137	757	894	66	268	334
1996	131	677	808	72	263	335
1997	143	677	820	70	265	335
1998	128	523	651	56	254	310
1999	127	595	722	61	230	291
2000	117	661	778	51	187	238
2001	108	659	767	72	200	272
2002	87*	463	550	54*	165	219

Note: Figures of 2001 & 2002 are provisional.

* Figures for 2002 are projections based on data upto September, 2002.

To arrest the number of accidents the Directorate-General of Mines Safety has taken Various measures.

SAFETY MEASURES

14.36. with a view to ensure enforcement of necessary safety measures in mines: The inspections are carried out by the inspecting officers. Apart from inspecting coal, Metalliferous and oil mines DGMS also undertakes investigation into all fatal accidents, certain serious accidents and dangerous occurrences and makes recommendations for remedial measures to prevent recurrence

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of similar mishaps

Table 14.8

Trend of Accidents in Coal Mines – Cause wise

Causes	Number of Fatal Accidents						Number of Serious Accidents					
	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002
Fall of Roof	38	35	33	27	30	26	53	48	55	43	34	36
Fall of Sides	12	15	11	14	9	8	37	29	23	45	43	33
Other Ground Movements	1	0	4	1	0	3	0	0	2	1	0	0
Winding in Shafts	3	3	3	3	2	0	6	1	3	3	6	3
Rope Haulage Dumpers, Trucks, etc.	21	18	12	8	13	8	124	109	117	101	116	66
Other Transportation Machinery	24	20	20	30	20	20	28	30	49	42	30	21
Non-Transportation Machinery	5	3	7	3	3	3	9	13	13	16	23	19
Explosives	7	11	6	9	10	5	38	36	30	47	33	34
Electricity	4	4	5	1	2	3	16	6	6	4	7	6
Gas, Dust, Fire, etc.	7	5	7	3	4	6	2	7	5	4	5	4
Fall of Persons	4	2	1	5	0	0	2	1	0	0	0	1
Fall of Objects	12	7	10	9	9	1	166	142	142	161	191	106
Other Causes	3	2	2	2	1	3	116	59	70	88	82	66
Other Causes	2	3	6	2	5	1	80	42	80	106	89	68
Total	143	128	127	117	108	87	677	523	595	661	659	463

Note: Data for 2001 & 2002 are provisional.

Figures for 2002 are projections based on January-September data.

Table 14.9

Trend of Accidents in Non-coal Mines – Cause wise

Causes	Number of Fatal Accidents						Number of Serious Accidents					
	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002
Fall of Roof	3	2	2	1	2	1	3	2	2	1	-	-
Fall of Sides	12	7	8	11	7	7	5	-	3	1	1	-
Other Ground Movements	-	1	-	-	-	1	-	-	-	-	-	-
Winding in Shafts	1	1	-	-	-	-	-	2	3	1	1	2
Rope Haulage Dumpers, Trucks, etc.	1	-	-	-	-	-	2	3	5	3	5	-
Other Transportation Machinery	22	13	15	14	22	11	15	21	11	13	14	12
Non-Transportation Machinery	-	3	1	2	4	3	10	9	12	1	2	3
Explosives	5	5	7	3	7	3	19	30	28	26	23	19
Electricity	6	3	7	5	6	8	1	1	5	-	-	3
Gas, Dust, Fire, etc.	4	3	4	2	1	3	-	2	2	2	1	4
Fall of Persons	-	1	-	1	4	-	3	1	-	1	-	-
Fall of Objects	8	11	11	8	11	6	47	46	39	34	44	42
Other Causes	6	4	4	3	3	6	94	67	61	34	53	34
Other Causes	2	2	2	1	5	5	66	70	59	70	56	46
Total	70	56	61	51	72	54	265	254	230	187	200	165

Note: Data for the years 2001 & 2002 are provisional. Figures for 2002 are projections based on Jan.-Sept. data.

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The details of accidents on financial year basis from 1995–1996 to 2002-2003 are shown in Table 14.9A.

Table 14.9A

Accidents and resultant casualties in mines										
Year	Coal					Non-Coal				
	Fatal Accident		Serious Accident			Fatal Accident		Serious Accident		
	Acc	Killed	Inj	Acc	Inj	Acc	Killed	Inj	Acc	Inj
1995-96	150	233	29	738	763	70	76	6	277	282
1996-97	130	150	12	697	720	65	74	13	266	275
1997-98	130	145	23	622	650	73	79	15	252	255
1998-99	124	139	22	521	541	52	62	13	253	256
1999-2000	130	148	23	582	613	61	74	14	219	229
2000-2001*	109	162	20	689	712	56	58	3	181	185
2001-2002*	107	117	16	597	629	70	80	6	196	196
2002-2003#	95	112	15	500	514	54	64	8	176	179

* Data are provisional

Data are provisional & are projections based on data up to September, 2002.

The trend in fatal accidents and fatality rate per 1000 persons employed on 10-yearly average basis from the year 1951 to 2000 is shown in Table 14.9 B.

Table No. 14.9B

Trend in Fatal Accidents and Fatality Rates per 1000 Persons Employed (Ten Yearly Average)								
Year	Coal Mines				Non coal Mines			
	Avg. Acc	Acc. Rate	Avg. Killed	Death Rate	Avg. Rate	Acc. Acc	Avg. Rate	Death Killed
1951-60	222	0.61	295	0.82	64	0.27	81	0.34
1961-70	202	0.48	260	0.62	72	0.28	85	0.33
1971-80	187	0.40	264	0.55	66	0.27	74	0.30
1981-90	164	0.30	185	0.34	65	0.27	73	0.31
1991-2000*	140	0.27	170	0.33	65	0.31	77	0.36

* Data are provisional

- Power under section 22 and 22A of the Mines Act, 1952, Regulation 103 of Coal Mines Regulations, 1957 and Regulation 108 of Metalliferous Mines Regulations, 1961 has been vested with DGMS to issue improvement notices and prohibitory orders to restrict or

prohibit employment of persons in mines or part of mines

- During the period April 2002 to September 2002, 33 notices & 22 orders were issued in coal mines and 17 notices & 27 orders were issued in non-coal mines.

- The number of inspections and inquiries

carried out from the year 1990 onwards are shown in Table 14.10

Table 14.10

Number of Inspections and Inquiries										
Year	No. of Inspections				No. of Inquiries				Grand Total	
	Coal	Metal	Oil	Total	Coal	Metal	Oil	Total		

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Year	Coal	Metal	Oil	Total	Coal	Metal	Oil	Total	Grand Total
1990	6069	3424	160	9653	1107	480	61	1648	11301
1991	5838	3846	258	9942	1063	521	102	1686	11628
1992	5598	4063	313	9974	1233	533	59	1825	11799
1993	5766	3953	262	9981	1227	463	57	1747	11728
1994	5625	3345	213	9183	1346	539	25	1910	11093
1995	5461	3206	181	8848	1102	396	21	1519	10367
1996	5525	2491	226	8242	1105	330	50	1485	9727
1997	4563	2404	189	7156	1157	406	34	1597	8753
1998	4752	2539	166	7457	1127	398	29	1554	9011
1999	6106	3061	198	9365	1319	483	26	1828	11193
2000	5642	3614	245	9501	1163	325	26	1514	11015
2001	5410	2908	229	8547	1148	418	51	1617	10164
2002*	4296	1863	224	6383	774	306	33	1113	7496

*Figures for 2002 are provisional and up-to September only.

CIRCULARS

14.37 The DGMS issues circulars to the mining industry on occupational safety and health matters, which may have wide implications. During the period April 2002 to September 2002 ten technical circulars were issued to the mining industry.

COMPETENCY TEST

14.38 To ensure that only competent persons are appointed as mine managers surveyors, overman, foreman etc. the DGMS on behalf of the Board of Mining Examinations constituted under the Coal Mines Regulation, 1957 and the Metalliferous Mines Regulations, 1961, conducts examinations and issues certificates of competency. Details of competency certificates issued during the period from April 2002 to October 2002 have been given in Table 14.11.

Table 14.11		
Certificate of Competency issued during April to October, 2002		
Candidates passed under		
Category of certificates of	Coal Mines Regulations, 1957 competency	Metalliferous Mines Regulations, 1961
Manager	463	151
Surveyor	95	22
Overman / Foreman	223	143
Sirdar / Mate	192	70
Shotfirer/Blaster	-	32
Winding Engine Driver	43	4

Gas-testing

473

-

NATIONAL SAFETY AWARDS (MINES)

14.39 In the year 1983 the National Safety Awards for mines were instituted with 1982 as the contest year. The scheme is designed to give recognition at the national level for outstanding safety

performances in mines covered under the Mines Act, 1952. The awards are given every year. The Hon'ble Vice President at New Delhi has distributed awards for the year 2000 in a function held on 27th March, 2002. The award for the year 2001 will be given by 31st March, 2003.

ON-GOING PLAN SCHEMES

14.40 With a view to keeping the technical and professional competence

of the inspecting officers updated and backing the regulatory, enforcement, advisory and the promotional roles of the Directorate-General of Mines Safety, special attention is being paid to the following areas:

Augmentation of S&T Capabilities, Mines Rescue Services and Human Resource Development (S&T)

14.41 The S&T Support services aim at providing in-house scientific support to the officers of DGMS in discharge of their regulatory and enforcement role. It also provides scientific support and advise to mine operators, worker’s organisation and other institutions concerned with occupational health and safety matters. The activities of the S&T plan scheme covers a wide cross-section of facets of occupational safety and health including occupational safety and health including occupational hygiene/health, strata control, mine ventilation, mine gases, fires and explosion, mining techniques, mine mechanisation, oil and opencast mines safety, standard setting and policy planning.

The support activities are broadly divided into three categories:

(i) Planned support:

Plan support is provided to field offices on:

- a current issue which has emerged into an enforcement problem;
- an enforcement strategy calling for development of monitoring equipment or techniques; and
- monitoring of quality assurance of external organisations in sampling, pre-approval testing and other similar activities.

These activities are selected on merit, including improvement of efficiency and safety and future needs.

(ii) Reactive support:

Reactive support is provided in response to demands from field offices in areas where:

- in-house assessment and analysis of a problem leads to better understanding of enforcement problem and helps in determining enforcement strategy;

and

- support is required on a technical problem without referring to external agency.

(iii) Testing Services:

This service is provided to the field offices as a sample check on quality control standards and in emergency response situation.

Major Programmes:

The major programmes of the S&T plan scheme includes:

(1) Occupational Safety:

- (a) Monitoring of implementation of the Technical Standards on Support System in Board and Pillar workings.
- (b) Review of standards on stability of multi-Seam workings.
- (c) Review of standards on detection, control, dealing with and protective measures against fire and revision of standards/guidelines.
- (d) Assessment of hazards associated with mine mechanization and standardization of monitoring techniques and control measures.
 - (i) Standardisation of prototype test(s) for testing power supports and hydraulic / friction props.
 - (ii) Standardisation of Ultrasonic Testing Techniques and formulation of Acceptance and Rejection Norms
 - (iii) Testing of fire resistance hydraulic oils.
- occupational hazards from noise, air borne dust, mine gases and poor illumination.

Occupational Hygiene and Health

- standardization of techniques for monitoring and control of occupational hazards from noise, air borne dust, mine gases and poor illumination.

- Review of standards of medical examinations.
- Review of standardization of procedures for surveillance of occupational diseases already established.

14.42 Development of Mines Rescue Services:

This activity aims at promoting proper rescue services in mining industry. The scheme envisages critical appraisal of design characteristics of rescue apparatus and self-rescuers, evaluation of field performance of the same, inquiry into accidents in use of rescue apparatus, inspection of rescue stations/rescue rooms, organising rescue competitions, monitoring formulation of emergency plan by the management of all under ground mines and to deal with applications for grant of permissions/approval/relaxation under the Mines Rescue Rules, 1985.

Major Programmes:

1. Installation of testing facility for SCBA of Resuscitator.
2. Creation of Rescue Data bases.
 - (i) CMR/OMR/MMR dBase.
 - (ii) PRAE databases.
3. Design of rescue systems.
 - (i) Inundation RRS.
 - (ii) Fire RRS.
 - (iii) Explosion RRS.
4. Development of disaster control systems.
5. Testing of self-rescuers, Testing SCBA.
 - (vi) Executive Trainees.
 - (vii) VTOs.

6. Rescuers Competition.
7. Standard setting, review of emergency plans.
8. Issue of Technical circulars to the mining industry.

14.43 Human Resource Development:

This activity envisages setting up of a mine Mines Safety & Health Academy comprising Institutes at Dhanbad and Nagpur for imparting structured training to the inspecting officers of DGMS so as to update and upgrade their technical and professional competence and improve their effectiveness in regulatory, enforcement, advisory and promotional roles. The facilities so created would be also utilized for disseminating latest information on mine safety principles and practices amongst the key safety personnel of the mining industry and the workmen's inspectors.

Major Programmes:

1. Development of training schedules
2. Conduct of training programmes.
 - (a) Training of DGMS Officers
 - (i) New Entrants.
 - (ii) Existing officers.
 - (iii) Special Lectures.
 - (b) Training of key personnel in Mining Industry.
 - (i) Management personnel
 - (ii) Safety Officers.
 - (iii) Ventilation Officers.
 - (iv) Engineers.
 - (v) Industrial Hygienists.

- (c) Training of Workmen's Inspectors.

During the year 2002-2003 , the following activities were undertaken by S& T wing.

Activity	Achievement from April,2002 – Sept ,2002.	Likely to achieve up-to March,2003	Remarks
(A) Augmentation of S&T capabilities			
1. Mine Environment surveys	14 mines	24	
2. Occupational Health Review, Survey & Medical Exam.	2 mines	4	
3. Ground Control	14 mines	18	Targets in some of the projects activities
4. Mine Mechanisation (Testing of Machinery Parts)	6	12	could not be achieved

5. Additional job:-			
(a) gas analysis	53 Nos.	100	due to shortage of manpower.
(b) Testing of FRHF	20	35	
(B) Development of Mines Rescue Services:			
1. Installation of testing services for SCBA & Resuscitator.	Contd.	Contd.	Targets in some of the projects activities could not be achieved due to shortage of manpower
2. Creation of rescue databases.	Contd.	Contd.	
3. Review of Rescue systems.	Contd.	Contd.	
4. Testing of self rescuers.	Nil.	—	
5. Rescue competition.	Nil.	7	
6. Standard setting, review of emergency plans.	—	—	
7. Field visits.	23Nos.	40	
(C) Human resource Development			
1. Development of Training Schedule	—	—	Targets in some of the projects activities could not be achieved due to shortage of
2. Conduct of Training Programs			
(a) DGMS officers	69 persons	100	
(b) Key personnel from mining industry			
116 persons			
200 manpower			
(c) Special skill training.			
6 persons			
15			
(d) Workmen Inspector			
50 persons			
65			

Study of Mine Accidents and Development of Mine Safety Information System (SOMA)

14.44 The Scheme has been formulated by merging two on-going plan schemes of DGMS, Namely, "Development of Mine Safety Information System (DMSIS, 1976) and "Study of Mine Accidents to Plan Preventive Measures (SOMA-1976). These two schemes were functional independently during the 8th Plan period and during the first four years of the 9th plan. In 2000-2001, i.e. the terminal year of the 9th plan, keeping the objective of integration in view, these schemes were merged into one scheme, Study of Mines Accidents and Development of Mine Safety Information System (SOMA)".

Objective of the Scheme :

- To carry out studies into mine accidents and dangerous occurrences in order to arrive at the root cause of accidents and to suggest preventive measures which, on implementation would improve

- Identification of mines with relatively higher potential of accidents through in-depth analysis of accident data and risk assessment through risk analysis and to propose the preventive measures to eliminate danger there-from.
- To develop a multi-disciplinary perspective in respect of major cause group of accidents by undertaking in-depth study of the under lying factors causing such accidents; to identify and forecast potential areas of dangers as well as to suggest preventive actions.
- To reconstruct complicated accident for proper investigation of causes leading to the occurrences. It also envisages to develop additional model to give support to the statistical analysis by forecasting hazards through risk assessment and risk analysis;
- To collect, compile and disseminate detailed information on various technical and welfare aspects of mining activities for:
 - Assessment of implementation of Various provisions under statute.
 - Assessment of the profile of labour forces.
 - Assessment of trend in mechanisation in mines.
 - Projection of future development in

mining.

- In-depth analysis of accidents and their causes etc.
- Development of assessment of impact of safety programmes and campaigns.

Achievement: April,2002-September,2002.

- Reports of enquiry into all fatal accidents were scrutinized. Causes and circumstances leading to these accidents were finalized and compiled for inclusion in DGMS Annual Publication.
- Fresh accident data for the period 1997-2001 have been collected from 11 coal companies and a new set of accident prone mines have been identified in respect of each individual company after analysis. Follow up action on the mines identified earlier as accident prone has been taken.
- Work of collection, compilation and analysis of data in respect of major cause groups such as fall of roof, fall of sides wheeled trackless transportation machinery and haulage accidents in coal mines for the year 2000 has been compiled in order to identify critical causation of such type of accidents and to find out probable corrective measures year, 2001.

to ensure their prevention. The findings have been disseminated to the industry through technical circulars.

- DGMS Annual Report – 2000 has been published.
- Standard Note on DGMS as on 1.1.2002 has been published.
- Technical circulars has been issued to the industry. Five Technical instructions were issued to the technical officers of DGMS.
- Publication of Monthly review of accidents.
- Compilation of Statements for the Annual Publications “ Statistics of Mines in India “ Vol-I (Coal) & Vol-II (Non-Coal) for the year 2001 is under progress and the manuscript is likely to be ready for printing by March, 2003.

Publication to be released during October, 2002 to March, 2003 :

1. Standard Note on DGMS as on 1.1.2003.
2. Compilation of DGMS Annual Report, 2001.
3. Collection, Compilation and analysis of data on accident prone mines.
4. Procurement of hardware and software.
5. Analysis of accident data in respect of major cause group in coal mines for the

CAREER MANAGEMENT AND TRAINING (CMT)

14.45. Several officers were deputed for training in important areas such as administrative and Financial matters and technical aspects of mining methodology etc. The details of such trainings during the period April, 2002 to October, 2002 are given in Table 14.12.

Table 14.12

Training of DGMS Officers				
Sl. No.	Course	Venue	Date	No. of Officers attended
1.	Training on environment.	I.S.M, Dhanbad.	8.4.02 to 17.5.02	1
2.	Training for trainers	New Delhi	22.7.02 to 26.7.02	1
3.	Training on oilfield operation	Ankeleswar, Gujarat.	23.7.02 to 25.7.02	11

4.	Inspection of electrical installation under I.E. Rules.	Bangalore	28.10.02 to 1.11.02.	2
5.	Computer training for ISS officers.	New Delhi*	18.11.02 to 29.11.02.	2

Seminar/Symposium/Conference/Workshop etc. attended by the officers during the period from April, 2002 to November,2002 are given in Table 14.13.

Table 14.13

Details of seminars, symposium, workshops and conferences etc.

Sl. No.	Title of the Seminars etc.	Venue	Duration	No. of officers attended
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1.	All India Seminar on Modernizing Business through E- Transition.	Kolkata	19.4.02 to 20.4.02	1
2.	ILO / Japan National Workshop on occupational safety and health management system.	Mumbai	21.5.02. to 23.5.02	1

3. Conference on Indian Mining and Karnataka.
23.5.02 to 24.5.02
4
mineral based industries- challenge in the era of globalization.
4. Seminar on Mining, Technology Delhi*
15.11.02 to 16.11.02
2
and management for business excellence.

* - proposed.

production and distribution of promotional materials; publication of periodicals- Industrial Safety Chronicle, Newsletter; National Safety Day/Week and other promotional campaigns; operating NSC's Safety Awards Scheme and special projects in emerging key areas of national concern. Internationally, it has developed close collaboration with the ILO, UNEP, World Bank, EPA (USA), ADPC(Bangkok), WEC, JISHA (Japan) and member organizations of APOSHO (Asia Pacific Occupational Safety and Health Organisation) of which NSC is a founder member.

14.47. 10th National Conference on "HSE Challenges in the Era of Globalization" from 9-11 April, 2002 in New Delhi.

NSC organized its 10th National Conference on 'HSE Challenges in the Era of Globalization', the largest Conference on HSE in the country in the recent past, from 9-11 April, 2002 in Vigyan Bhawan, New Delhi.

• Some of the important recommendations of the Conference are –

- Since there is no International Standard for OSH the Conference is of the view that such an OHS Management System (OHSM) should be established under the existing national standard. IS: 15001, (It has since been renumbered as IS: 18001)

NATIONAL SAFETY COUNCIL

Organisation and Functions

14.46 The National Safety Council (NSC) is an autonomous and self-supporting institution set up by the Ministry of Labour, Govt. of India on 4th March 1966, devoted to strengthening of voluntary movement on safety, health and environment at the national level. It has an all India network of 5,367 members comprising 3,700 industrial establishments & institutions' 133 trade union organizations, 630 individuals and 904 life members; 13 State Chapters and 23 Action Centres, NSC's activities include education and training; national and international conferences; HSE audits, risk assessment, emergency preparedness and other consultancy services; technical publications;

- and that the Bureau of Indian Standards (BIS) should quickly start the process of issuing certification for IS 15001. This Standard should be harmonized with OHSAS 18001 so that the industries certified for the former desiring to have the latter also will have least difficulty in obtaining the same.
- The impact of natural disasters on hazardous installations should be duly considered in risk assessment for development of emergency plans.
 - Many local crisis groups notified under the CAEPPR Rules 1996 are not active due to lack of technical support, guidance and motivation. There is definite need for strengthening of (a) community awareness and involvement, (b) Hazmat response capabilities of first responders viz., Fire Brigades, Police and Medical Services and (c) the emergency response in transportation of hazardous chemicals. The National APELL Centre (NAC) for India recently established in the NSC by UNEP-DITE is timely and serves to address the above issues on a long term and sustainable basis. NAC therefore should be supported and fostered further by the Government and industry. The APELL Process requires implementation in 45 industrial areas.
 - There is a need to develop proactive mechanism for reviewing and updating periodically the Development Control rules to focus on Technological risk Mitigation norms.
 - There is a need for development of professional guidelines and manuals by a broad-based group for recognizing / approving training courses / institutions under the statutory provisions of the Factories Act.
 - A 3-Tier organization, as recommended in the MoEF – World Bank sponsored Feasibility Study requiring networking and strengthening the existing Centres of Excellence and Training Institutes and Setting up of a small autonomous Apex Body with an Advisory Board, is to be created.
 - The Trade Unions fully supported the Government's policy – not to compromise with OSH in the WTO regime.
 - There is enormous need to organize HSE training and awareness programmes at the local levels (units, industry and state) and Trade Unions must support this activity.
 - The National Accreditation Board proposed to be created during the 10th Plan for accreditation of professionals should be broad-based and independent with the ultimate goal of ensuring competence, quality and ethics in the Safety Auditors and auditing should have the responsibility to grant accreditation to /Safety Auditors also.
 - There is need for the government to initiate studies to evaluate OHS standards in small and medium enterprises.
 - The SSI Units should become NSC members and utilize its training, consultancy and informations services for getting cost effective access to HSE information.
 - For an effective enforcement of the statutory provisions relating to construction safety, there is a need to build technical competence of the Inspecting Officials in interpreting safety rules in technical inspection of the construction equipment & methods and in developing appropriate inspection strategies.
 - There is urgent need to review comprehensively the training requirements and facilities available in the country and to institutionalize the training in construction safety.
 - For successful enforcement of any law, the Government should bring out guidelines for compliance and publicize the safety norms even before new legislation is brought out. The services of NGOs can be utilized for launching an effective public awareness campaign.
 - There is gross inadequacy of qualified occupational health physicians in the country vis-a-vis the large number of chemical factories and workers exposed to occupational health hazards. Hence, there is need for a larger number of approved training facilities for

preparing qualified occupational health physicians.

Special Conference Number of the Chronicle

14.48 The issue of the Industrial Safety Chronicle was released as a Special Conference Number to mark the 10th National Conference. It contained background papers on safety in construction industry, industrial accident statistics, HSE in small scale sector, occupational health challenges ahead, environmental management – present status & future directions and a few important national and international articles.

HSE Exhibition

14.49 Various types of equipment, services and publications on HSE subjects were displayed in the HSE exhibition organized concurrently with the Conference. In all, 13 exhibitors including one from Japan participated.

Presentation of NSCI Safety Awards

14.50 With a view to recognizing and encouraging organizations with outstanding performance in safety management, the NSC introduced the NSCI Safety Awards Scheme in the year 1998.

The NSCI Safety Awards – 1999 were presented to 21 winning organizations by the Hon'ble Union Labour Minister in the Inaugural Function of the 10th National Conference. Thirteen out of the 21 organisations have achieved the **Zero accident** goal in all the three years of the assessment period. These organizations have also commendable arrangements in respect of other important factors such as training of employees and contractor workers, employees' participation in safety management, independent safety auditing of the plants, employees' health protection, emergency preparedness, participation in mutual aid response groups, safe transportation of hazardous chemicals, disposal of hazardous waste and community awareness. They have also contributed to the improvement of safety and health in small-scale units by providing appropriate information and guidance and helping them in emergencies and generally subscribe to strengthening of voluntary movement on safety and health at the national level. These

Awards Winning organizations have adopted self-regulatory approach and taken voluntary initiatives. Their achievements go much beyond compliance with statutory requirements.

The Awards comprised Sarvashreshtha Suraksha Puraskar (1), Shreshtha Suraksha Puraskar (4), Prashansa Patra (11) and Yogyata Praman Patra (5). The Heavy Water Plant, Tuticorin, a constituent of the Department of Atomic Energy, Govt. of India won the coveted Sarvashreshtha Suraksha Puraskar.

The list of the Award Winners of the NSCI Safety Awards-2000 has also been finalized and the Awards will be presented by the end of this year.

National APELL Centre (NAC) in NSC Headquarters

14.51 In recognition of the work done by the NSC in implementing the APELL Process in India for about a decade, the National APELL Centre (NAC) has been set up in the NSC Headquarters in April, 2002 under MoU between NSC and the Division of Technology, Industry & Economics (DTIE) of UNEP, Paris. It is the first APELL Centre in the world. It will have technical support and information from UNEP & other international sources and the Ministry of Environment & Forest and the stakeholders.

NAC is dedicated primarily to strengthen the chemicals emergency preparedness and response through the use of the internationally accepted APELL Process. It will function as a Response Centre to provide objective and quality information advice & training and as a focal point for networking and promoting effective partnership among authorities, industry and community. Its actions would be particularly focussed at the local level as per the APELL approach.

It is in the process of developing a paper giving concept, strategy and services to be provided.

14.52 International Co-operation

- Participation in XVI World Congress on OSH Held from 25-31 May in Vienna
- Participation in 18th Annual Meeting and Conference of APOSHO, held from

OCCUPATIONAL SAFETY AND HEALTH

- 8-10 October in Hanoi.
- Nodal Agency for Strengthening Collaboration with JISHA, Japan.
- Safety Awareness Surveys, Safety

Audits and Risk Assessment Assignments.

- Basic Course for Building Competence in Enforcement Officials for CLC (Central) Organisation for Conducting Technical Inspections Under BOCW

Act and Rules (Central).

HSE Training Programmes

14.53 Training is the core activity of NSC. Therefore, it has continued to lay emphasis on designing and developing appropriate training programmes on HSE-related subjects as per the changing needs of the industry. During the period under report (upto October), 28 training programmes comprising 12 national level and 16 unit level were conducted for 949 participants for various categories of personnel from industry. The details are given in the following Table:

Table : Details of Training Programmes Conducted

Sr. No.	Programme	Participants
I.	Specialised Training Programmes (at the national level) - one each (12)	
•	National Seminar on Occupational Safety and Health Management System	33
•	Electrical Safety (2 Courses)	68
•	Environmental Legislation	27
•	Management of Chemical Accidents	15
•	Safety in Construction Work	38
•	Risk Assessment in Industry	39
•	Hazardous Waste Management	33
•	Occupational Safety and Health Management System	44
•	Fire Prevention and Protection in Industry	36

- Industrial Safety for Trade Union Representatives and Worker – Members of Safety Committees 108

- Safety Audit 41

II Need – based in –Plant Training Programmes (at the Unit level) – (16) 467

Total 949

Campaign spearheaded by the NSC was celebrated all over the country in March, 2002 (commencing 4th March being the NSCs Foundation Day) on a large scale with the support of the Union Ministry of Labour. A special message from Chairman, NSC was printed and sent to all the members and patrons on this occasion. The theme for this years’s campaign was “Make Disaster Preparedness an Integral Part of Safety and Security Management”. Besides, NSC developed a variety of safety promotional material and utility articles with catchy safety messages for this purpose.

14.54 National Campaigns on HSE

National Safety Day/Week

The 31st National Safety Day/Week

Fire Service Week

The Fire Service Week has been actively promoted by the NSC for the last three years which is observed from 14 to 20 April. The

NSC has designed, developed and brought out a special information folder on Fire Prevention in Godowns, Safe Use of Natural Gas, Fire Safety in Offices and Spontaneous Combustion. In addition, a special poster on electrical Fires and a banner depicting the national theme Ensure Fire Safety, Save Life, Save Property projected by the Fire Adviser, Union Ministry of Home Affairs was also brought out for the use by industry.

World Environment Day

The World Environment Day which is observed on 5th June every year has also been actively promoted by the NSC among its members and patrons. For this, NSC has designed, developed and brought out a special information folder containing coverage on the World Environment Day, OCCUPATIONAL SAFETY AND HEALTH instruction cards on Ozone Depleting Substances (Regulation & Control) Rules 2000, Batteries (Management & Handling) Rules 2001, Corporate Environmental Reporting and Product Design based on Life Cycle Assessment. A poster with the slogan 'Optimise Water Consumption' and cloth banners with the theme 'Give Earth a Chance' for display on the Day were also brought out and made available to the industry.

14.55 Projected Future Activities (1st January, 2003 to 31st March, 2003)

National Safety Calender 2003

To support HSE awareness and educational programmes a multi-coloured 8- sheet National Safety Calender – 2003 for which technical concept is developed by NSC and the cartoons executed by Padmabhushan Shri Mario de Miranda, the renowned cartoonist will be brought out by December, 2002. Over two lakh Calendars will be distributed among the Member organizations and patrons in the country and abroad by the end of this year.

HSE Diary – 2003

The Health, Safety & Environment Diary for 2003 containing statutory information on various key subjects in the areas of safety, health and environment protection and other related aspects besides the date-pad will be brought out for ready reference which is of practical value to management, supervisors, workers and ordinary citizens. About 15,000 HSE Diaries will be distributed among Member organizations, institutions and patrons in the country and abroad by the end of this year.

14.56 HSE Training Programmes

The following HSE training programmes will be conducted (from October 2002 to March, 2003).

- Safety Audit
- Organising and Motivating for Safety
- Hazardous Waste Management (2 programmes)
- Statutory Requirements Pertaining to OSH
- Environmental Legislation
- Testing and Reviewing of Emergency Plans
- Environmental Management Systems (2 programmes)
- Safety in Material Handling

In addition, need-based in-plant training programmes will be conducted in industrial establishments at request.