

# **An Overview of Occupational Safety and Health Management by Government in Factories, Ports and Docks of India**

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## **INTRODUCTION**

In the context of Globalisation, growth is destined to gallop at an enviable rate by the end of the current decade resulting in the OSH issues becoming highly significant in factories, ports and docks of India. The Government of India through its nodal department Directorate General Factory Advice and Labour Institute (DGFASLI) looks into the administration of OSH in the factories, ports and docks. The Indian industry is becoming a force to reckon with in the present context and has registered factories spread over thirty two States and Seven Union territories. There is a variation in the density and type of Industries across the country. Globalization has lead to growth in diversity and complexity of technologies in the Factories. The country is served by sea routes on all the three peripheral sides and has developed twelve major Ports for ships to call and discharge the cargo of all types at these ports. Some of these ports are over a century old and have now developed world class cargo handling facilities.

## **METHOD**

### **OSH Legislative Management**

The Government of India has specific statutes which address the Occupational Safety and Health in the Factories, Ports and Docks. The Factories Act, 1948 is mentioned in the third schedule of the Constitution of India which is called a concurrent list providing scope for both the Central and State Governments to play their roles in respect of Safety & Health in Factories. The factories are addressed through The Factories Act, 1948 with a clear definition of a 'factory' and 'manufacturing activity'. Major amendments were effected into these statutes during the years 1951, 1955, 1976 and 1987 after due tripartite consultation and Legislative process. Comprehensive amendments to the Factory Act are under active consideration of the Government of India. This Act is a Central Legislation and provides scope for the States of the Indian Union to frame rules as practicable as possible to be enforced by them. The DGFASLI provides every possible assistance to the Chief Inspectors of Factories of the State Government to achieve the basic Objective of providing Safe and Healthy Work Place. DGFASLI prepares model Rules and regularly interacts with all the Chief Inspector of Factories to bring about uniformity in the administration of the Factories Act and also keep it dynamic, pragmatic and up to date.

The Directorate General Factory Advice Service and Labour Institutes provide service to the Industry and the State Government in effectively addressing OSH in the Factories. The services include carrying out Health and Safety Surveys and Studies of National Importance. Currently Prevention of Silicosis is a priority, apart from assistance like enhancing awareness amongst exposed working population, quest towards adoption of appropriate machinery and personnel protection are also included. The out come of such exercise provides

inputs in preparing strategies for promoting Occupational health/safety of the working population. The DGFASLI has also been tasked to consider the adoption of the International Standards that address certain sectors of Economic activity (Manufacturing) and provide inputs to the Government for incorporating and adopting the ILO standards in the National Legislation.

The OSH at Port Sector is addressed by The Dock Safety, Health and Welfare Act, 1986 and the regulations made in 1990. Both the administration and Enforcement of these statutes at the Major Ports rests with the DGFASLI. There are Minor and Intermediate ports which are distinctly different from the Major Ports and the OSH requirements are specified and enforced by the State Governments. The Directorate General Factories Advice Service and Labour Institutes being an apex body provides encouragement and OSH Services to the Industries, both owned by the Government and Public.

## **Overview of DGFASLI Activities in OSH**

The Regional Institutes under DGFASLI at Chennai for Southern region, Faridabad for Northern region, Kolkatta for Eastern region, Kanpur for Central region and the Central Labour Institute at Mumbai for the whole country and the western region (which is the Nodal Institute for the other four Institutes) provide services on OSH. These Institutes have a multi disciplinary approach to address OSH issues and Includes specialized divisions like Safety, Industrial Hygiene, Industrial Medicine (now Occupational Health) Major Hazards and Chemical Safety, Industrial Physiology, Industrial Psychology and Ergonomics, Environmental Engineering, Productivity Centre and Staff Training centre and Small Scale Cell. Recently a cell for preventing and controlling silicosis has been set up in the Institute. A dedicated Laboratory to test Personal Protective Equipments (both Respiratory and Non Respiratory) has been set up at Central Labour Institute. The activities of these divisions draw their technical strength from the well equipped Management Information Services division and a Library. Central Labour Institute is the National CIS centre for the country and Hazards Alert Centre for the Asia Pacific Region under ILO. ILO has declared Central Labour Institute as the centre of Excellence in OSH.

## **Academic Activities in OSH**

The Institutes under DGFASLI have been running a One Year Advanced Diploma in Industrial Safety to assist the industries to appoint Qualified Safety Officers in factories. The institutes have so far turned out over 5000 professionally Qualified Safety Officers. The Institutes have also trained professionals from countries like Singapore, Thailand, Sri Lanka, Pakistan, Bangladesh, Nepal, Senegal and Zimbabwe, etc. It is credit to these institutes that many safety professionals from these Institutes have moved out to developing countries for shouldering onerous responsibilities. The Institutes under DGFASLI are also running three months Certificate Course titled Associate Fellow of Industrial Health (AFIH) to prepare Factory Medical Officers to identify and Prevent Occupational Health disorders, a statutory requirement under Factories Act, 1948 and Dock Workers Safety, and Health & Welfare Act, 1986. The Institutes also impart a one month's Training Course for Supervisors employed in Handling and Storage of Chemicals, a requirement under The Factories Act, 1948 applicable to Factories having Hazardous Processes.

Workers participation in OSH management, a requirement under the statutes, is considered as an important element in bringing about any change and the Institutes facilitate and Train Worker Representatives to effectively participate in identification of Hazards and Investigation of incidents. To provide encouragement to the Construction Sector the Institutes have ventured into providing a two month Certificate Course in construction safety. This in particular assists the industry in meeting the statutes applicable to the construction Sector.

## **Technical Activities in OSH**

### **Occupational Health Centre**

The Occupational Health Division at Central Labour Institute, Mumbai in particular has established a National Referral Diagnostic Centre for diagnosis and confirmation of any Occupational Health disorders.

### **Institutional Programmes**

The Institutes all through the year organize Training Programmes which could be specific in nature or for general awareness. A significant number of them are like Hazard Identification and their Control, Safety Audits, Legal requirements, Work Environment Monitoring and Control, Identification & Selection of Personal Protective Equipment, Behavioural Safety, Ergonomics and so on. The Industries nominate their employees to these programmes. Specialized Training Programmes for Trade Union Leaders are also organized.

### **Institutional Assistance**

Educational Institutions, including Medical Institutions and Engineering Institutions, defence service college send their Students for a visit to apprise themselves on the importance of OSH. Tradesmen from industry also visit to get practical understanding on OSH issues in Industry and their preventive and control measures.

### **Work Area Environment Monitoring**

The Industrial Hygiene division provides service in estimating the level of contaminants in the work area and suggest measures to bring them below the prescribed permissible limits.

### **Monitoring Physical Hazards**

The Institute provides services to industry to estimate the levels of Noise, Illumination and Ventilation and suggest measures to be taken so that they conform to the statutory requirements of safe working environment.

### **Safety Audit and Surveys**

With the Multi disciplinary set up, the Institutes are capable of undertaking Safety Audits to identifying any weakness in the System of OSH in the Factories. The Safety Division undertakes need based surveys to identify potential accident causing situations and provide recommendation to meet the requirement of developing safe working conditions.

## Hazard Identification Techniques

The DGFASLI provides service to industries to identify hazards by application of techniques like 'what if analysis', 'faulty tree analysis', 'event tree analysis', 'Failure Mode Effect Analysis', 'HAZOP' and so on.

## Work Stations

The Institutes through its Ergonomics and Physiology division provides solutions to develop improved work stations to take care of any mismatch which may result into musculoskeletal problems. The various sources of radiant heat are also assessed and measures suggested to reduce the thermal load thereby making him physiologically comfortable to work.

## Competency Building and Regulation

The Department constantly updates the competency of Professionals seeking Competency Certificate to Test and Examine Lifting Machinery under the statutes applicable to the Port Sector. The Department also provides Technical Guidance to the department administering the Statutes applicable to Construction Sector. The complete Human Resource Development requirements of Factories Directorate are looked after by these Institutes.

## Promotional Activities

The Ministry of Labour has Instituted Safety Awards to different Category of Factories and workers based on their safety performance and suggestion / innovation implemented. The organisation also selects and recommends employees for the highest National Award to be given by the Prime Minister of India.

## Quality Assurance of Personal Protective Equipment

The Institute provides service for testing of Various Personal Protective Equipment both Respiratory & Non Respiratory used by the Industry to meet the National Standards. Constant Research to identify methods to improve PPE is undertaken and the manufacturers are advised as to how they can improve the quality of their PPEs.

## Standards and Codes

DGFASLI is represented on the various committees constituted by the Bureau of Indian Standards (National Standards Organisation) related to various Safety and Health aspects, etc.

## **Research Activities in OSH**

### National Studies

The Department has undertaken National studies in specific industries like the Chlor-alkali plants, Pesticides and Fertilizer plants, covering different types of processes and the findings have been of value to strengthen

the rules under the relevant statutes. The findings have been useful to set standards and develop codes of practices, guidelines, etc. The Department also at the request of ILO undertook to study the issue of Child Labour in a few sectors. Asbestos has been in the priority list and studies to know its status in term of its Effect on the Indian Industry was evaluated. Preventive measures are then evaluated. Ship breaking has been an activity which has been closely watched for the Safety and Health of workers in that Sector and significant measures have been recommended for Improving Ship breaking Operations to make them safe. Silicosis as an Occupational disease specially related to quarrying and stone breaking and industrial processes has been on the top of the Government agenda and measures are being devised to make industry aware of the Hazards. They are also being advised as to how to make the process safe for the workers. Preventive measures are also being advised after conducting Health and Hygiene studies to prevent the onset of these diseases. With these steps the Department is in a better position to regulate these operations putting an effective control to the workers exposure.

## **Administrative Activities in OSH**

The Department on behalf of the Government has been in constant consultation with all concerned stake holders on the steps taken and evaluate the current status and steps to be taken for the ratification of the ILO Conventions and Recommendations. The Government has adopted as many as forty ILO Standards/ Conventions. In the recent past (P 89) Protocol of 1990 to the Night Work (Women) Convention (Revised), 1948 has been ratified on 21/11/2003.

## **Achievements in OSH**

The industrial accidents statistics for India indicate a reduction of Thirty percent (30%) of Accidents with Twenty percent (20%) increase in Employment over the past one decade and there has been twenty four percent (24%) reduction in accidents in Ports & Docks during 2005-2007, which is a remarkable achievement in OSH activities in India. The Bhopal Gas leak disaster which occurred in 1984 in India was an eye opener in the OSH management of the Major Accident Hazards factories. The Government has come out with specific legislations in management of OSH in these industries with the objective of ensuring safe functioning of these units as well as assuring effective emergency preparedness planning at the individual unit level and at state level. Annual conference of Chief Inspector of Factories of state governments are organized for effective administration and implementation of The Factories Act, 1948 by taking into account the global developments in the field of OSH. The annual conference for the Dock Safety Inspectors and workshop for competent persons of the Ports and Docks are conducted regularly to sensitize them on the concepts and latest developments in OSH. The declaration of the year 2008 as the year of Industrial Safety & Health by the Government is another milestone aiming at propagation of OSH concepts through the country.

The industries specifically, refineries and chemical industries are globally competitive on OSH matters by implementing various international standards on OSH like OHSAS; 18001 2007. The automobile industries are also equally competitive in implementing global standards on OSH. The Government has taken

measures to ensure OSH in construction activity by coming out with a legislation specifically for construction industry.

## **OSH : Vision 2020**

The Department is making all efforts to make Occupiers aware of the benefits of Establishing an Occupational Safety and Health Regime which is effective and dynamic, with constant upgrading to safer Technologies and to move towards establishing Safety Culture. Above all the Department through the above strategies proposes that every Occupier as the Owner of the Factory moves into a regime of Self Regulation for the sustainable growth of the Industries. With the significant presence of Indian Industries in the Global Scenario and many Joint Ventures coming up, OSH is a very significant aspect for consideration. The Indian Industry with the guidance of DGFASLI and the Chief Inspector of Factories are making determined efforts to meet the requirements of OSH of their international partners. The Government is constantly providing the inputs to the trade unions to improve the Health and Safety in the units and it is stressed to them that OSH is never negotiable. The Ministry of Labour considers including the Occupational Safety and Health related subjects in every applicable academic course so that the topic is appreciated by the young employees in developing safe cultures.

The Ministry of Labour is actively considering regulating practicing Safety Auditors providing Services as is required under the statutes distinctly different from the OSH certification, which is no substitute to the Statutory Audit. Under the 11<sup>th</sup> Five Year Plan period 2007 to 2012 the Government has proposed to enhance the facilities and infrastructure of DGFASLI and its Five Institutes by provision of state of art Equipment for undertaking Work Area Monitoring. The Plan aims at enhancing the Capabilities of the personnel employed by DGFASLI through exposure to various developing fields like Risk Insurance, Risk Analysis etc. With these measures, the objectives are being attained through a mode of upgrading the confidence of both the working population and Entrepreneurs.

## **CONCLUSION**

The DGFASLI being the nodal department under the Ministry of Labour and Employment administers OSH in Factories and enforces OSH in ports and docks. Apart from administration and enforcement DGFASLI resorts to a lot of measures like research, advisory and resource provider role in India, thus fulfilling the needs of Factories, Ports and Docks.

## **REFERENCES**

1. Standard reference notes of DGFASLI.
2. The Factories Act, 1948 & the respective State Factories Rules.
3. The Dock Workers (Safety, Health and Welfare Act 1986) and the Regulations 1990.
4. The Building and other construction workers (Regulation of Employment and Conditions of Service) Act 1996.
5. The Chemical Accidents (Emergency planning, preparedness and Response) Rules, 1996.

6. The Manufacture, storage & Imports of hazardous Chemical Rules, 1989.