

COURSE NAME : ADVANCE DIPLOMA IN INDUSTRIAL SAFETY
 COURSE CODE : IT
 YEAR : FIRST
 SUBJECT TITLE : SAFETY, HEALTH AND ENVIRONMENTAL LEGISLATION
 SUBJECT CODE : 23114

TEACHING AND EXAMINATION SCHEME

TEACHING SCHEME				EXAM SCHEME & MAXIMUM MARKS				
TH	TU	PR	PAPER HRS.	TH	PR	OR	TW	TOTAL
02	01	--	03	100	--	--	--	100

- NOTE**
- > Two tests each of 25 marks to be conducted as per the schedule given by MSBTE.
 - > Total of tests marks for all theory subjects are to be converted out of 100 and to be entered in mark sheet under the head Sessional Work (SW)
 - > Eight Assignments pertaining to the subject shall be completed in the tutorials.

RATIONALE

To acquaint the student with National and International Acts, Rules, Conventions pertaining to Safety, Health and Environment.

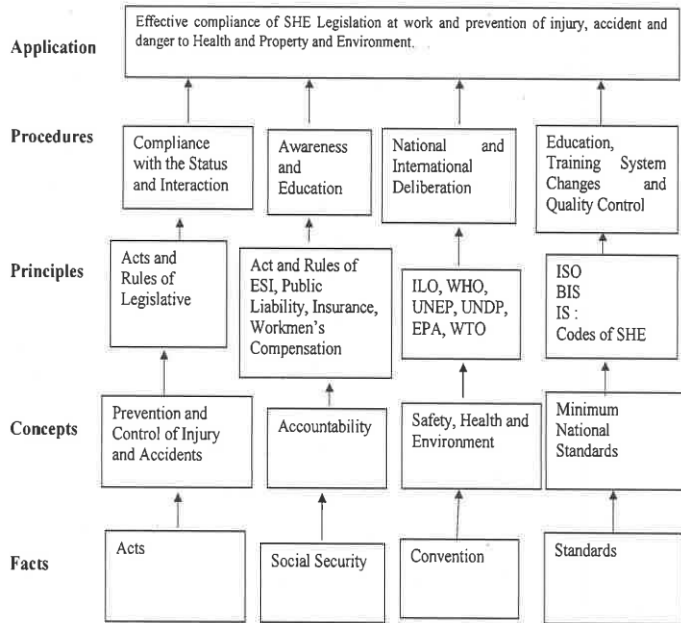
OBJECTIVES

The student will be able to:

- Know various safety statutory requirements under Factories Act and its rules.
- Learn safety provisions under BOCW Act & Rules.
- Know safety statutory requirements under various SHE Legislations.
- Know the important measures in Social Security Legislations.
- Know the safety related ILO conventions & recommendations.



LEARNING STRUCTURE



DETAILED CONTENTS

CHAPTER	CONTENTS	MARKS	HOURS
1	The Factories Act, 1948 and Rules : Provisions relating to Safety, Health and welfare, under the Act and Factories Rules made there-under, Amendments Process to the Act and Rules, The Maharashtra Factories Safety Audit Rule 2014, Important Case Laws under the Factories Act, 1948,	20	14
2	The Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and Central Rules, 1998 and State Rules The Building and other Construction Worker's Welfare Cess Act, 1996 and State Rules, 1998, Maharashtra Fire Prevention and Life Saving Act, 2007 and Rules.	16	10
3	Environment Protection Legislations : Water (Prevention & Control of Pollution) Act 1974 and Rules. Air (Prevention and Control of Pollution) Act 1981 and 1982 and Rules. Environment (Protection) Act, 1986 and Rules. Manufacture Storage and Import of Hazardous Chemical Rules, 1989, Noise Pollution Act, 1998, Bio-Medical Waste, E-Waste Rule, Batteries Rule, Hazardous Waste Management (Trans boundary) Rules, Chemical Accidents (Emergency Preparedness, Planning and Response) Rules 1996	16	10
4	Safety, Health and Environment (SHE) related Important Legislation: Sections pertaining to SHE in Indian Boilers Act, 1923 with allied Regulations, 1961, Indian Electricity Act, 2003 and Rules, latest CEA guidelines, Indian Explosives Act, 1984 and Rules. Petroleum Act and Rules, Gas Cylinders Rules. Calcium Carbide Rules, The Insecticides Act and Rules. Radiation Protection Rules, Hazardous Materials Transportation Rules, Static and Mobile (Unfired) Pressure Vessel Rules, 1981 as amended in 2000. The Dock Workers (Safety, Health & Welfare) Act 1996 and Rules and Regulations.	16	10
5	Social Security Legislations Employees Compensation Act and Rules, ESIC Act and Rules, Contract Labour (Abolition and Conditions of Service) Act and Rules, Public Liability Insurance Act, 1991 and Rules, Responsible Care (RC), Motor Vehicles Act, 1988 and Rules The Central Motor Vehicles Rules, 1989, The Maharashtra Motor Vehicles Rules, 1989, Transport of Hazardous Goods by Road Rules, Fire Prevention and life Safety	16	10

CHAPTER	CONTENTS	MARKS	HOURS
	Measures Act 2006 and rules.		
6	ILO Convention and Recommendation concerning Occupational Health & Safety Relevant Conventions and Recommendation of ILO in the furtherance of Safety, Health and Environment (SHE). SHE a human right issue. Trade Policy affecting OHS.	16	10
TOTAL		100	64

INDICATIVE LIST OF TUTORIALS ASSIGNMENTS (Any 8)
Faculty may choose other assignments based on the curriculum

SR. NO.	ASSIGNMENT
1	List out the Health Provisions under Factories Act / Rule
2	Identify the Duties of Occupier under Factories Act / Rule
3	List out the Key Statutory Provisions under BOCW Act / Rule
4	List out the rules under Environment (Protection) Act, 1986
5	Case Law on Social Security Act
6	Case Law on Dock Safety Act, 1986
7	Case Law on Factories Act
8	List out the Provisions under Factories Act /Rule for Hazardous Process
9	Duties Of Safety Officer
10	List out the Key Elements in PCB Consent to Operate

SUGGESTED LEARNING RESOURCES

SR. NO.	TITLE	AUTHOR	PUBLICATION
1	The Factories Act, 1948 & Factories Rules	--	Bare Act
2	Environment (Protection) Act, 1986 and Rules	--	Bare Act
3	The Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and Central Rules, 1998 and State Rules	--	Bare Act
4	Employees Compensation Act, 1923 and Rules	--	Bare Act
5	Indian Electricity Act, 2003 and Rules CEA guidelines, Indian Explosives Act, 1984 and Rules.	--	Bare Act
6	The Petroleum Act & Rules	--	Bare Act
7	The Dock Workers (Safety, Health & Welfare) Act 1996 and Rules and Regulations.	--	Bare Act
8	Indian Boilers Act, 1923 with allied Regulations, 1961.	--	Bare Act
	The Maharashtra Fire Prevention and life Safety Measures Act 2006 and Rules	--	Bare Act



CHAPTER - 1

THE FACTORIES ACT 1948 (AMENDED IN 1976 & 1987) AND RULES:

The Factories Act 1948: The above Act was subsequently amended in 1935, 1936, 1937, 1940, 1941, 1944, 1945, 1946 and 1947 before its major amendment in 1948.

During the Interim Congress Regime, a five year plan was drawn up to ameliorate the labour conditions in India and also to revise the Factories Act of 1934 on the line of the UK Factories Act 1937 and latest ILO conventions in the matters of safety, health, welfare, working hours, industrial hygiene, medical examination of young persons and submission of plans of factory buildings.

The 1942 Conference was important as being the first attempt at collaboration between Government, employers and workers in matters pertaining to Labour. Arising there from, a Plenary Tripartite Conference and a Standing Labour Committee had been set up to advise Government on Labour matters and this resulted in smoothening the way for introduction of legislative measures including the draft Bill.

The Factories Bill was introduced in the Constituent Assembly on 30-1-1948 passed by it on 28-8-1948, received the assent of the Governor General of India on 23-9-1948 and came into force from 1-4-1949.

Statement of Objects and Reasons:

It was stated in this part that the Factories Act 1934 revealed a number of defects and weaknesses and the provisions for safety, health and welfare were found inadequate and unsatisfactory. The large mass of workers was not covered by the Act and in view of the large and growing industrial activities in the country; radical overhauling of the Factories law was essentially called for and cannot be delayed.

It was also mentioned that "the present Act (of 1934) leaves important and complex points to the discretion of Inspectors placing heavy responsibility on them. In view of the specialized and hazardous nature of the processes employed in the factories, it is too much to expect Inspectors to possess an expert knowledge of all these matters. The detailed provisions contained in the Bill will go a long way in lightening their burden".

The Labour Minister explained in the Legislature on 30-1-1948 an admirable summary of the New Law and pointed out the broad changes that were brought about.

SECTION-2:

- a) ADULT- means a person who has completed his 18th year of age.
- b) ADOLESCENT- means a person who has completed his 15th year of age but has not completed his 18th year.
- c) CHILD -means a person who has not completed his 15th year of age.

ca) Competent person – means a person or an institution recognized as such by the Director of Industrial Safety & Health (DISH) for the purpose of carrying out inspection /testing required to be done under the provision of this Act.

cb) Hazardous process - Any process or activity carried out in a factory cause impairment to health of the person engaged in or connected to such process, result in a the pollution of general environment.

LIST OF INDUSTRIES INVOLVING HAZARDOUS PRZARDOUS PROCESSES (THE FIRST SCHEDULE -THE FACTORIES ACT, 1948), 29 INDUSTRIES ARE LISTED IN THIS SCHEDULE.

1. Ferrous Metallurgical Industries
2. Non- Ferrous Metallurgical Industries
3. Foundries
4. Power Generating Industries
5. Fertilizer Industries
6. Cement Industries
7. Petroleum Industries
8. Petro – Chemical Industries
9. Chemical Industries
10. Highly flammable Liquids and gases

d) YOUNG PERSON – means a person who is either a child or an adolescent.

k) MANUFACTURING PROCESS

Means any process for-

- Making, altering, repairing ornamenting finishing, packing, oiling washing, cleaning, breakin up, demolishing. any article or substance.
- Pumping oil, water, sewage or any other substance.
- Generating, transforming, transmitting power.
- Printing, book binding.
- Constructing, reconstructing, repairing, refitting, finishing, or breaking up ships or vessels
- Preserving, or storing any article in cold storage.

l) Worker – means a person a person employed directly or by/through any agency (including contractor) in any manufacturing process or connected with the manufacturing process.

m) FACTORY

- Ten or more workers are working or were working on any day of the preceding 12 months, and in any part of which a manufacturing process is being carried out with the aid of power.
- Twenty or more workers are workers are working or were working on any day of the preceding 12 months, and in any part of which a manufacturing process is being carried out without the aid of power.(Health officer means municipal Health officer or District Health officer or officer appointed by state Govt. Factory Manager means the person responsible to the occupier for the occupier for the working of the factory for the purpose of this act.)

SECTION 6- APPROVAL, LICENSING AND REGISTRATION OF FACTORIES3—

APPROVAL OF PLANS

Permission for the site on which factory is to be situated – Application such permission shall be made in Form 1.

3A-CERTIFICATE STABILITY

NO manufacturing process shall be carried out in a factory until a certificate of stability (Form 1-A) issued by a competent person. Once in each period of 5 years stability test is to be done and certificate of stability (Form 1-A) by a competent person is to be obtained.

5-APPLICATION FOR REGISTRATION AND GRANT OF LICENSE

The occupier or factory manager shall submit to DISH an application in Form 2 for registration of the factory and application in Form 3 for grant of license.

SECTION 7-A GENERAL DUTIES OF OCCUPIER

(Occupier of factory means the person who has ultimate control over the affairs of the factory) Every occupier shall ensure, so far as is reasonably practicable, the health, safety and welfare of all workers while they are at work in the factory.

THE INSPECTING STAFF

SECTION 8- (RULE 17) INSPECTORS(DIRECTORS OF INDUSTRIAL SAFETY & HEALTH)

The State Government may appoint such persons for the purposes of this act.

State Government may appoint:-

Chief Inspector (DISH)

Additional Chief Inspector (ADSH)

Joint Chief Inspector (JT DISH)

Deputy Chief Inspector (DY. DISH)

Inspectors (Assistant DISH)

SECTION 9 – POWER OF INSPECTORS –

Make examination of factories
Inquiry and investigation of accidents
Suggest/recommends corrective measures

SECTION 10 – (RULE 18) CERTIFYING SURGEONS

The State Government may appoint qualified medical practitioners to be Certifying Surgeons for the purpose of this act.

State Government may appoint:-

Dy Director (Medical)

Any qualified medical practitioner (Area wise) to exercise powers of Dy Director (Medical)

POWER OF CERTIFYING SURGEONS

The examination and certification of young person

The examination of person engaged in dangerous occupation/process

Medical supervision/surveys

Examination of young person (Form 6)

Visit the factories (carrying dangerous operations), examine the person employed and record the result in health register (form 7)

SECTION 11 (RULE 19) – CLEANLINESS

White washing and colour washing – at least once in every period of 14 months.

Where they are painted or varnished – repainted or revarnished once in every period of five years.

SECTION 12 (RULE 22) – DISPOSAL OF WASTED AND EFFLUENTS

In the factory where the drainage system is proposed to be connected to public sewerage system, prior permission shall be obtained from Local Authority.

For the areas notified under Water (Prevention and Control of Pollution) Act – Approval to arrangement made for the treatment & disposal of trade waste and effluents shall be obtained from MPCB.

SECTION 13 (RULE 22A) – VENTILATION AND TEMPERATURE

Adequate ventilation by circulating fresh air, such temp to give comfort and prevent injury to workers.

Max. Wet-bulb temp. of air in work room at a height of 1.5m above the floor level – Max 30°C (Wet-bulb temp. shall not exceed dry-bulb temp.)

Air movement at least 30m/minute. The amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least 6 times the cubic capacity of work room and distributed evenly throughout the work room.

SECTION 14 – DUST AND FUME

Dust and fumes likely to be injurious to the workers – exhaust appliance shall be applied as near as possible to the point of origin of dusts and fumes or such point shall be enclosed (provide scrubber system to collect fumes).

SECTION 16 – OVER-CROWDING

In every work room of factory – 14.2m³ spaces for every worker is required.

SECTION 17 (RULE 35/36) – LIGHTING

Where natural lighting is not sufficient – additional lighting (uniform level, widely distributed, free from glare) shall be provided.

Stock-yard, entrance/exit roads, cat-walk, storage area Minimum intensity of illumination – 20 Lux

Passage-way, stairways, basement – 50 Lux

Boiler room, elevators, store rooms, toilet/wash rooms – 100Lux

Where discrimination of detail (for such jobs) is not essential to where discrimination of extremely fine detail is involved – 50 to 1000 Lux

Any source of artificial light is less than 5 meters above floor level or any light is producing glare shall be provided with suitable shade of opaque material or effective means to screen the light.

SECTION 18 (RULE 39) DRINKING WATER

The quantity of drinking water to be provided for the workers shall be at least 5 lit a day per worker.

In every factory where in more than 250 workers are employed, the drinking water shall be cooled by ice or effective methods. Water centre shall be provided on canteen, lunch room, rest room and on each floor if the factory has more than one floor.

One water centre for every 150 workers is to be provided.

SECTION 21 (RULE 57) FENCING OF MACHINERY (GUARDS)

Every moving part of prime mover

Every flywheel connected to prime mover

Headrace & tailrace of every water wheel & water turbine

Any part of stock-bar which project beyond the head stock of lathe

Every part of an electric generator, a motor or rotary converter

Every part of transmission machinery

Every dangerous part of any other machinery shall be securely fenced by safeguards of substantial construction Combined openers & scutchers, lap machines, hard waste breakers, cleaners, blenders, hopper moter and similar machines.

The border covers and doors shall be fitted with effective interlocking arrangements.

Carding Machine: - All Cylinder doors shall be secured by an automatic locking device which shall prevent the door being opened until the cylinder ceased to revolve and shall render it impossible to restart the machine, until the door is closed.

Drawing Frame: - The gearing for driving the draft rollers shall be effectively guard by a cover which shall be so interlocked that it cannot be raised until the machine is stopped and the machine is stopped and the machine cannot be restarted until the cover is closed.

Speed Frame: - Headstocks shall be fitted with automatic locking arrangement.

Combers & similar machines: - The gearing shall be effectively guarded by a cover which shall be so interlocked that it cannot be raised until the machine is stopped and the machine cannot be restarted until the cover is closed.

Self-acting Mules: - The drive shall be from countershaft which shall be provided with fast & loose pulley and efficient belt shifting devices.

Shearing & Cropping Machines: - the dangerous moving outer blades shall be provided with an efficient interlock arrangement that prevent the complete cover or guard to be opened until the cutter blade has come to rest and would also make it impossible to restart the machine until the guard is closed.

Singeing Machines: - Effective arrangement such as solenoid valve or other effective device shall be provided to cut off instantaneously supply of gas or electricity to machine in case of power failure.

Cotton Ginning Machinery:-

The line shaft or second motion in cotton ginning factories when below floor level shall be completely enclosed by a continuous wall or un-climbable fencing.

The bare portion of the line shaft between the bearing and also of the projection at the end of line shaft shall be provided with inverted “U” or sleeve type guards.

Wood Working Machinery :- (Wood working Machinery means a circular saw, band saw, planing machine, chair mortising machine or vertical spindle molding machine operating on wood or cork. Circular Saw means working in a bench which is moved towards the wood for cutting operation. Band Saw means a band saw, the cutting portion of which runs vertical direction. Planing Machine means a machine for overhead planing or for thickening or for both operations).

An efficient stopping and starting device shall be provided on every wood-working machine.

Every Circular Saw Shall Be fenced as follows:

Behind and in direct line with the saw there shall be an arriving knife, which shall have smooth surface, shall be strong, rigid and easily adjustable. The distance between the front edge of the knife and the teeth of the saw shall not exceed 10mms. For a saw having dia. Of <60cms, the knife shall extend upwards from the bench table to within 25mms, of the top of the saw, for a saw having dia. Of 60cms or over, shall extend upwards from the bench table to a height of at least 22,5cms.

The top of the saw shall be covered by a strong and easily adjustable guard, with a flange at the side of the saw farthest from the fence. The part of the saw below the bench table shall be protected by two plates of metal one on each side of the saw. Such plate shall not be more than 15 cm apart and shall extend from the axis of the saw outwards to a distance of not less than 5 cm. beyond the teeth of the saw.

Push Sticks – A push stick shall be provided for use at every circular saw and at every vertical spindle molding machine.

Vertical Spindle Molding Machine – The cutter of every vertical spindle moulding machine shall be guarded by the most efficient guard.

Planing Machine – shall not be used for overhead planing unless it is fitted with a cylindrical cutter block.

Every planing machine used for overhead planing shall be provided with a “bridge” guard capable of covering the full length and breadth of the cutting slot in the bench.

The feed roller shall be provided with efficient guard.

Chain Mortising Machine – The chain of every Chain Mortising Machine shall be provided with a guard which shall enclose the cutter.

Rubber and plastic Mills – (Rubber and plastic Mills means machine with rollers used in breaking down, cracking washing. Grating, mixing, refining and warming of rubber, and plastics. A calendar means machine with rolls used for fractioning sheeting, coating and breading of rubber. compounds and plastic or plastic compounds)

Rubber and plastic Mills shall be equipped with Hoppers so guarded that it is impossible to come into contact in any manner with the nip of rolls. Safety – trip rods shall extend across the entire. Length of the face of the face of the rolls and shall be located not more than 170cms above the floor or working level. Colander machines shall be equipped with Horizontal Safety – trip rods across both front and rear, which will when pushed or pulled operate instantly, to disconnect the power and apply the brakes or to reverse the roll.

Injunction Molding Machine – An electrical interlock arrangement shall be provided so that the mould cannot be closed unless the front safety gate is fully closed and on opening the front safety gate, the moulds will stop automatically.

Centrifugal Machines – (Centrifugal Machine includes centrifugal extractors, de-extractors, separators and driers). Centrifugal Machines shall be provided with efficient interlocking devices that will physically prevent the lids from being opened while the rotating drums or baskets are in motion under power and would also prevent the starting of the drums or baskets under power while the lids are open.

Centrifugal Machines – (Centrifugal Machine includes centrifugal extractors, de-extractors, separators and driers.)Centrifugal Machines shall not be operated at a speed in excess of the manufacture’s rating All Centrifugal Machines shall be provided with effective braking arrangement to bring cage, drum or basket to rest within short period of time after the power is cut off.

The cages, drums or baskets shall be thoroughly examined by a competent person regularly to check their balance.

Shears, Slitters and Guillotine Machines – (Shears, Slitters and Guillotine Machines means a machine. Whether driven by power or otherwise, equipped with a straight blade operating vertically against a resisting edge and used for shearing metals or non-metallic substances)

A barrier metal guard shall be provided at the front of the knife, fastened to the machine frame and shall be so fixed as would prevent any part of the operator’s body to reach the descending blade from above, below or through the barrier guard or from the sides.

At the back end of such machines, an inclined guard shall be provided over which the slit pieces would slide and be collected at a safe distance in a manner as would prevent a person at the back from reaching the descending blade.

Slitting machines- (Slitter or Slitting Machine means a machine equipped with circular disc-type knives and used for trimming or cutting into metal or non -metallic substances or slitting them into narrow strips)

Circular disc-type knives shall be provided with guards enclosing the knife edges.

Index Cutters and Vertical Paper Slotters – (Index Cutters and Vertical Paper Slotters used for cutting strips from the ends of books). Shall be provided with fixed guards so arranged that the fingers of operators cannot come between the blades and blades and the tables.

Corner Cutters- (Corner Cutters used in the manufacture of paper boxes) shall be equipped with suitable guards fastened to the machine in front of the knives and provided with slots or perforations to afford visibility of the operation.

Band Knives -Band wheels or band knives – and all portion of the blades shall be completely enclosed with hinged guards of sheet metal not less than 1mm in thickness.

Agitators and Mixing Machines – (Agitators and Mixing Machines means a tank or other container equipped with power driven mixing arms, blades or paddle wheels fixed to revolving shafts or other simple mechanical devices for blending, stirring liquids with other liquids or with solid substances or combinations of these).

When the top of an open agitator tank, beater tank, or paddle tank is less than 1m above the adjacent floor or working level, adequate standard railing shall be installed on all open sides.

Agitator & mixing machines shall be provided with an efficient interlock arrangement for the top lid, to prevent access to the agitating stirring or similar devices, while in motion and would prevent restart under power with the lid in open position.

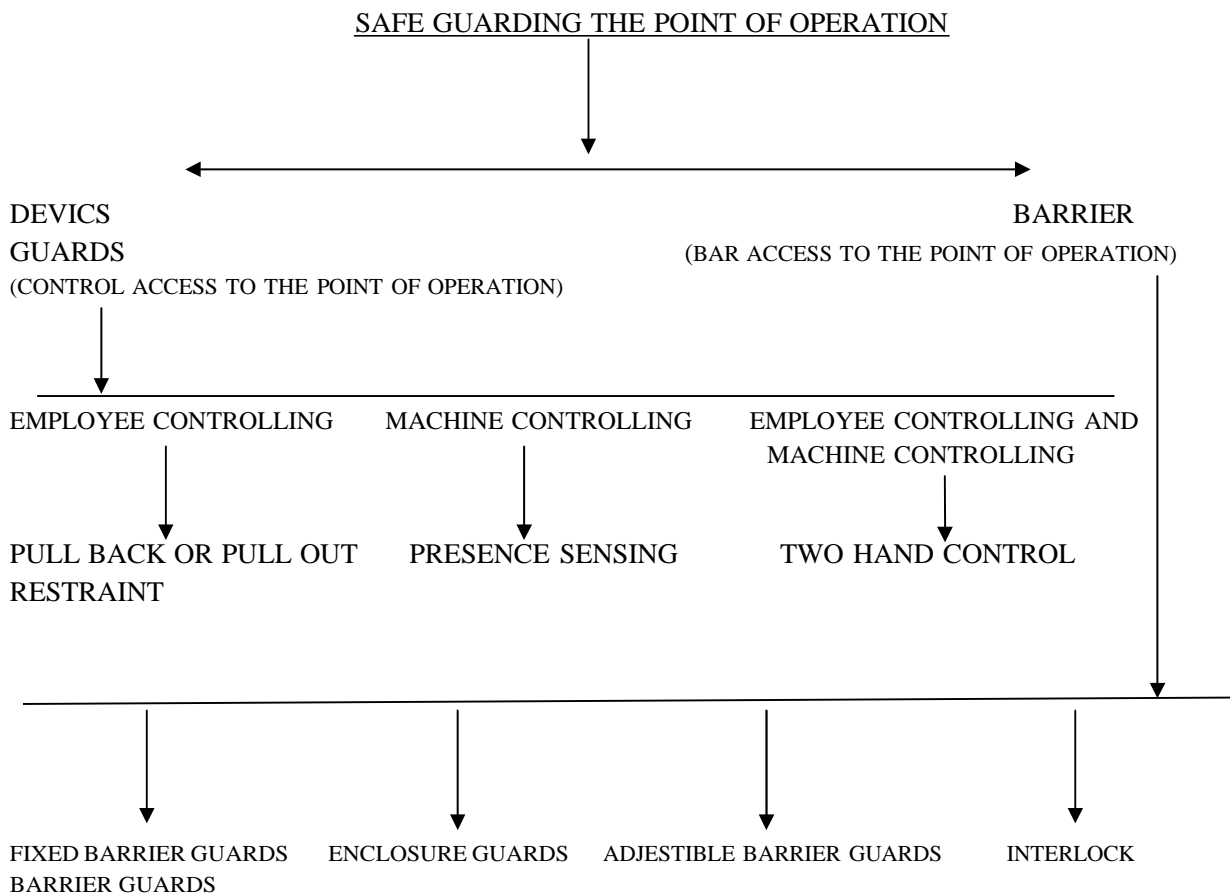
Openings at the top or sides of the containers vessels of the agitator and mixing machines provided for inspection & examinations shall be provided with standard grill guards as would prevent access of any part of operator’s body coming in contact with agitating, stirring while in motion.

When discharge holes, openings are provided at the bottom or at the sides of containers vessels of the agitator and mixing machines, they shall be so guarded as would prevent access of any part of operator’s body coming in contact with agitating, stirring while in motion inside the vessel.

LEATHER, PLASTIC AND RUBBER STRIPPER MACHINES-

Strippers for trimming or punching tanned hides, plastic or rubber sheets in either making, footwear manufacturing shall be provided with suitable devices which require simultaneous action of both the hands of the operator or an automatic device which will remove both the hands of the operator from the danger zone at every descent of the blade, punch or stripper cutter.

All couplings with projecting bolt heads and similar projections shall be completely encased or effectively guarded as to prevent danger.



(Guards are made up of woven wire, expanded metal, perforated metal, sheet metal, wood or metal strips (crossed) wood or metal strips (not crossed), plywood/ plastic, standard railing)

SECTION 22 (RULE 58/59) - WORKING ON OR NEAR MACHINERY IN MOTION

Examination of any part of machinery or its operation shall be carried out by specially trained adult male worker wearing tight fitting clothing and register is to be maintained in form 10.

Specially trained adult male worker shall not handle a belt at moving pulleys unless:

The belt is not more than 15cms in width.

The pulley is normally for the purpose of drive.

There is reasonable clearance between the pulley and any fixed structure.

Footholds and handholds are provided.

No woman or young person shall be allowed to clean, lubricate or adjust any part of prime mover or any transmission machinery while in motion.

SECTION 28 (RULE 62/63) HOIST AND LIFTS

Every Hoist and lift shall be of good mechanical construction, sound material, and adequate strength and properly maintained.

Thoroughly examined by a competent person atleast once in every period of six months and register is to be maintained.

Every Hoist and Lift shall be protected by an enclosure fitted. With gates and so constructed as to prevent any person from being trapped between any part of it and any fixed structure or moving part.

Maximum Safe Working Load (SWL) shall be marked on Every Hoist and Lift.

The cage of every Hoist and Lift used for carrying persons shall be fitted with a gate on each side from which access is afforded to a landing.

Every gate shall be fitted with inter-locking to secure that the gate cannot be opened except when the cage is at the landing and cage cannot be moved unless the gate is closed.

There shall be at least two ropes or chains separately connected with the cage and balance weight and each roper pr chain shall be capable of carrying the whole weight of the cage together with its maximum load.

Efficient device shall be provided capable of supporting the cage together with its maximum load in the event of breakage of the ropes, chains or attachments.

Efficient automatic device shall be provided to prevent the cage from over-running.

Register shall be maintained to record particulars of examinations as shown in Form 11.

SECTION 29 (RULE 64) – LIFTING MACNINES, CHAINS, ROPES AND LIFTING TACKLES

Lifting Machines – means a crane, crab, winch, pulley block, gin wheel, runway.

Lifting Tackles – means any chain, sling, rope sling, hook, shackle, swivel, coupling, socket, clamp, tray, whether fixed or moving used in the raising or lowering of persons, loads by use of lifting machines.

All parts of Lifting Machine and every Chain, Rope or Lifting Tackle shall be of good mechanical construction, sound material, and adequate strength and properly maintained.

Thoroughly examined by a competent person at least once in every period of twelve months and register is to be maintained.

No Lifting Machines, Chains, Ropes and Lifting Tackles shall be loaded beyond the SWL, Safe working Load shall be marked on it or displayed in prominent position.

Ensure that the crane does not approach within 6m of the place where any person is working on or near wheel track of traveling crane.

A register in Form 2 containing the particulars shall be maintained.

SECTION 30 – REVOLVING MACHINERY

In every factory in which the process of grinding is carried out there shall be permanently affixed or placed near each machine a notice indicating the maximum safe working peripheral speed of every grind stone or abrasive wheel, the speed of the shaft or spindle on which the wheel is mounted, and the diameter of the pulley upon which such shaft or spindle necessary to secure safe working peripheral speed.

SECTION 31 (RULE 65) – PRESSURE PLANT

Pressure Plant means the pressure vessel along with the piping and other fittings operated at a pressure greater than the atmospheric pressure.

Pressure Vessel means any vessel subjected to or operated at a pressure greater than the atmospheric pressure.

SAFETY MEASURES FOR EVERY PRESSURE PLANT OR PRESSURE VESSEL

Property designed

Good mechanical construction

Sound material

Sound material

Adequate strength free from any defect and property maintained.

- **{Section 32}** Floors, stairs and means of access should be soundly constructed and properly maintained.
- **{Section 33}** Pits, sumps opening in floor etc., should be either securely covered or fenced.
- **{Section 34}** No workman shall be employed in any factory to lift, carry or move any load so heavy as to be likely to cause him injury.
- **{Section 35}** Necessary protective equipment should be provided to protect the eyes of the workman, where the working involves risk of injury to the eyes.

- **{Section 36}** Suitable precautionary arrangements should be taken against dangerous fumes, gases etc.
- **{Section 37}** Every practicable measures should be taken to prevent any explosion where the manufacturing process produces dust, gas, fume or vapour etc.
- **{Section 38}** Every practicable measures should be taken to prevent the outbreak of fire and its spread, both internally and externally.
- **{Section 39}** The Inspector of Factories can ask the Occupier or the Manager of the Factory to furnish drawings, specification etc., of any building, machinery or a plant, in case he feels that condition of such building, machinery or the plant may likely to cause danger to human life.
- **{Section 40}** The Inspector of Factories can suggest suitable measures of steps to take by the Occupier or Manager for implementation, when he feels the condition of any building, machinery or a plant may likely to cause danger to human life. Wherein **1000 or more workmen are employed in a factory**, the Occupier should appoint a **Safety Officer** to look after the safety aspects of the factory. **{Section 40-B}**

The Factories (Amendment) Act 1954:

The Government of India ratified the ILO Conventions No. 89 & 90 prohibiting employment of women and young person's during night in factories. Therefore sections 66, 70 and 71 of the Factories Act 1948 were to be amended. Simultaneously opportunity was taken to amend other provisions also. Therefore the Factories (Amendment) Act, 1954 (25th of 1954) came into force with following major amendments:

1. Type composing for printing was included in the definition of manufacturing process.
2. Amendment of Section 4.
3. Prohibition of women and young persons from cleaning, lubricating and machinery in motion.
4. Encasement of machines.
5. Amendment of section 29 to prescribe clearly the safety requirements of lifting machines.
6. Allowing working 6 hours at a stretch without any interval when the shift is of 6 hours.
7. Exempting overtime work in case a shift worker does not turn up in time.
8. Amendment of sections 66, 70 & 71 in conformity with the ILO Convention No. 89 & 90 prohibiting employment of women and Chilean during night in factories.
9. Revision of Chapter-VIII relating to leave with wages to fix 240 days attendance, to raise the limit of carried forward leaves etc.
10. Recasting of section 93 to clarify the responsibility of the owner and occupier. Few minor changes were also incorporated.

The Factories (Amendment) Act 1976:

After 1948 and 1954, industrial growth was continued and need have Safety Officer was felt to advise management in the matters of industrial safety and health. Due to so many judgments on the definition of 'worker' and tendency to not include 'contract labour' therein in want of proof of 'Master Servant relationship' and feeling need of changes in many other sections including penal section, the Factories (Amendment) Act 1976 (94 of 1976) was enacted and brought into force from 26-10—1976. Its main amendments were:

1. Changes in the definitions of manufacturing process, worker, factory and occupier. Contract labour was included in 'worker'.
2. Approval of the plan and prior permission for the site.
3. Alterations in the provisions for inspector, certifying surgeons, cleanliness, disposal of waste and effluents, fencing of machinery, work on or near machinery in motion, striking gear and devices for cutting off power, pressure plant, floors, stairs and means of access, precautions against dangerous fumes, precautions in case of fire, specifications of defective parts, safety of building and machinery, first aid appliances, crèches, spread over, overtime wages, register of child workers, leave with wages, dangerous operation, notice of accidents, penalty for offences, determination of occupier in certain cases, limitation of prosecutions etc. In above alterations the posts of Additional, Joint and Deputy Chief Inspectors of Factories were added, more conditions for cleanliness, fire escape, first-aid etc. were imposed, women strength for crèche was reduced to 30, time limit of rules u/s 64 was extended to 5 years, more particulars of attendance in register and no permission to work without that was required by sections 62 (I-A) and 73 (I-A), carry forwarding of 'refused leave with wages', training and research institutes were included in section 86 for exemption purpose, the words 'manufacturing process or operation' were substituted in section 87 and requiring more welfare facilities including protective equipment and clothing under that section, time limit of one month for inquiry into fatal accident was fixed u/s 88(2), fine limit raised to Rs. 2000 from Rs. 500 u/s 92, and for enhanced penalty to Rs. 5000 from Rs. 1000 u/s 94 and provision of minimum fine in case of fatal accident and serious bodily injury (Rs. 1000 for death and Rs.

500 for serious bodily injury, these figures were doubled in case of enhanced penalty) was also made.

4. New additions were made by section 36A regarding use of portable electric light, section 40A for maintenance of building, 40B for Safety Officers, 62(1-A) and 73(1-A) for more particulars in muster roll, 88A for notice of dangerous occurrences and section 91A for safety and health surveys.

In new section 40-A power to give order to carry out measures suggested by Inspector for maintenance of buildings was given and u/s 40B Safety Officers were required for factories employing workers 1000 or more, and the State Government was empowered to notify factories for this requirement and to prescribe rules for the duties, qualifications and conditions of service of Safety Officers. These rules were prescribed in 1983. For these S.O. Rules, 1983

The Factories (Amendment) Act 1987:

The Bhopal accident created world-wide safety awareness and moved the governments to provide more stringent requirements for health and safety of workers and public. Therefore the Central and State Governments made necessary amendments in their Acts and Rules. A new Act 'the Environment (Protection) Act 1986' was enacted and the Factories (Amendment) Act 1987 was also enacted on 23-5-1987 providing a new chapter IV A on hazardous processes, many other requirements and severe penalties and imprisonment for breaches.

In its Statement of Objects and Reasons it was stated that -

"There has been substantial modernization and innovation in the industrial field. Several chemical industries have come up which deal with hazardous and toxic substances. This has brought problems of industrial safety and occupational health hazards. It is therefore, necessary to amend the Act to provide specially for the safeguards against use and handling of hazardous substances and laying down emergency standards and measures. The amendments also include procedures for sitting of hazardous industries for the safety of general public. Provision has been made for workers' participation in safety management, and making the punishment stricter."

The Factories (Amendment) Bill, 1986 (Bill No. 141 of 1986) was introduced in Lok Sabha on 2-12-1986 and received the assent of the President on 23-5-1987 as the Factories (Amendment) Act 1987 (No. 20 of 1987), and published in the Gazette of India on 25-5-1987. By the Notification dated 29-10-1987, Ministry of Labour, Govt. of India, the Act came into force from 1-12-1987 except sections 7B, 41F and the 2nd Schedule which came into force from 1-6-1988.

Its major provisions are :

1. Amendment of Section 2 adding the definitions of competent person, hazardous process and also clarifying the occupier for a firm, a company and government factories.
2. Insertions of section 7A and 7B for general duties of the occupier, manufacturers etc., section 87A giving power to prohibit employment on account of serious hazard, section 96A for penalty for breaches of section 41B, 41C and 41H, section 104A for proving limits of what is practicable etc., section 106A for jurisdiction of a court, section IIIA for right of workers, section II 8A for restriction on disclosure of information and insertion of new Schedules I & II for the list of hazardous industries and permissible levels of certain chemicals.
3. Insertion of a new Chapter IV-A regarding hazardous processes adding section 41 A for constitution of Site Appraisal Committee, section 41 B for compulsory disclosure of information including safety policy and on-site emergency plan and disaster control measures, section 41 C for medical examination, health, records & qualified supervisors, section 41D for Government's power to appoint inquiry committee, section 41E for emergency standards, section 41F for permissible limits of toxic exposures, section 41G for worker's participation in safety management and section 41H for right of workers to warn about imminent danger.

4. Amendments of sections 4, 9 (raising the powers of inspectors), 13, 16, 18, 19, 23, 25, 28, 29, 30, 31, 32, 36A, 64, 70, 71, 80, 87, 89, 90, 91A, 92, 94, 95, 96, 97, 98, 99, 115 and 119. The remarkable amendment is the heavy increase in penalties extending up to Rs. 2 lakhs and Rs. 5000 daily fine, imprisonment up to 10 years and minimum fine of Rs 5000 in case of serious injuries and Rs. 25000 in case of death.
5. Substitutions of section 36 and 38.
6. Omission of section 100 for nomination of occupier.

Therefore, now, looking to the passing of above Act of 1987, the factory managers and occupiers must run their factories strictly according to the law to avoid dire consequences.

SAFETY AUDIT RULE 2014

The Factories Act, 1948

No. FAC-2013/C.R.212/Lab-4 – In exercise of the powers conferred by section 112 and 115 read with section 41 of the Factories Act, 1948 (63 of 1948), in its application to the State of Maharashtra and clause (3) of section 23 of the General Clauses Act, 1897 (X of 1897) and of all other powers enabling it in that behalf, and in supersession of the Government Notification, Industries, Energy and Labour Department, No. FAC-2009/C.R.309/Lab-4, dated the 3rd January 2012; and to supplement the provisions of Chapter IV of the said Act as a measure for securing the safety of persons employed in certain class of factories, the Government of Maharashtra hereby proposes to make the following rules, the same having been previously published as required by sub-section (1) of section 115 of the said Act, as follows, namely:-

1. (1) These rules may be called the Maharashtra Factories (Safety Audit) Rules, 2013.
 - (2) They shall apply to the factories,-
 - (i) in which manufacturing processes, which involves use, storage, handling or processing of toxic or highly inflammable or explosive or hazardous chemicals or wherein such toxic or highly inflammable or explosive substances are likely to be generated or given out, are carried out, or
 - (ii) in which the hazardous processes as listed in First Schedule appended to clause (b) of section 2 of the Factories Act, 1948 (LXIII of 1948) is carried out; or
 - (iii) Employing more than 250workers.
2. (1) In these rules unless the context otherwise requires,-
 - (i) “Act” means the Factories Act, 1948 (LXIII of 1948), as applicable to the State of Maharashtra;
 - (ii) “Chief Inspector” means any person who is appointed by the State Government as a Chief Inspector, under sub- section (2) of section 8 of the Act;
 - (iii) “Degree” means the degree of statutory university;
 - (iv) “Diploma” means a diploma awarded by a statutory university or a recognized institution;
 - (v) “Form” means a form appended to these rules;
 - (vi) “the Government” or “the State Government” means the Government of Maharashtra;
 - (vii) “safety audit” means a systematic, objective and document evaluation of the

occupational safety and health systems and procedures in a factory,

(viii) "Safety Auditor" means a person recognized by a committee constituted by State Government as per rule 5 to carry out safety audit in accordance with these rules and include the safety auditors mentioned in sub- rule (3) of rule 5;

(ix) "Schedule" means the Schedule appended to these rules;

(x) "Section" means section of the Act.

(xi) "hazardous chemical" means any chemical as defined in sub-rule

(a) of Rule 2 of Maharashtra Factories (Control of Industrial Major Accident Hazards) Rules, 2003.

(xii) "Institution" means a firm, association, body, corporate, society or a trust, whether registered in accordance with the law for the time being force or not, and dealing mainly with the object of ensuring safety and health of workers engaged in factories.

(2) Words or expressions used but not defined herein, shall have their respective meanings as assigned to them in the Act or rules made there under.

3. The occupier of the class of factories mentioned in Sub rule (2) of rule 1 shall arrange to carry out the safety audit to supplement the provisions of

Chapter IV of the said Act as a measure for securing the safety of persons employed therein, the following manner, namely:-

(a) internally, once in a year by a team of Plant personnel;

(b) externally, once in two years by the Safety Auditor:

Provided that, in the year, when an external audit is carried out, it shall not be necessary to carry out an internal audit:

Provided further that, in case of any changes, total or partial, in the manufacturing process, the occupier shall, within one month prior to such change, carry out the safety audit externally by the Safety Auditor.

4. The Safety Audit shall be carried out as per the standards laid down as IS 14489: 1998 in the Indian Standard Code of Practice on Occupational Safety and Health Audit or any such standards prevailing at the relevant time whichever is latest by the Safety Auditor or in case of an institution, by the person or employee possessing the qualification, experience and other requirements as set out in Schedule I as a Safety Auditor.

5. (1) The State Government may recognize any person possessing the qualifications, experience and other requirements as set out in the Schedule I hereto as a Safety Auditor for the purpose of carrying out Safety Audit as provided by these rules:

(2) The State Government may recognize any institution, employing at least three persons possessing the qualifications, experience and other requirements as set out in the Schedule I as a Safety Auditor for the purpose of carrying out Safety Audit as provided by these rules.

Provided that, where the institute to which such recognition has been granted ceases to employ at least three persons possessing the qualifications, experience and other requirements set out in the Schedule I, the recognition granted to such institute shall stand cancelled;

Provided further that, State Government may for reasons to be recorded in writing, relax the requirements of qualification, if such institute is exceptionally specialized in the field of carrying out Safety Audit for not less than 5years.

(3) Director General Factory Advise Services &Labour Institute (DGFASLI) and National Safety Council (NSC) or an Officer having working experience of not less than 15 years in the office of the DGFASLI or NSC or Directorate of Industrial Safety and Health, Maharashtra State (DISH) notebook the rank of Deputy Director shall be deemed to be Safety Auditor for carried out Safety Audit under these rules.

(4) The State Government may from time to time fix the total number of such Safety Auditors to be appointed depending on the total quantum of work available in the State and also the manner in which applications are to be invited.

6. (1) An application for grant or renewal, of certificate of recognition as a Safety Auditor for carrying out safety audit shall be made to the Chief Inspector by an individual in Form A and by an institution in Form B.
 - (2) (a) On receipt of an application duly made in accordance with these rules, the Chief Inspector shall register such application and recommend it to the Government for its approval, after having satisfied itself as regards the competence and facilities available at the disposal of the applicant or recommend to the Government for rejecting the application, after specifying the reasons therefore within 30days.
 - (b) For giving an approval to the applicant as a Safety Auditor, the State Government may constitute a committee, if required, consisting of such members as it may deem fit, to advise it. The application shall be scrutinized by such committee and recommend it to the Government for its approval, after having satisfied itself as regards the competence and facilities available at the disposal of the applicant or recommend to the Government for rejecting the application, after specifying the reasons therefor within 30days.
 - (c) On receipt of the recommendation of the Chief Inspector or such committee, if constituted under paragraph (b), the State Government may grant recognition to the applicant as Safety Auditor or reject the application, after specifying the reasons there for within 45days.
 - (d) After the State Government grants approval to the applicant as the Safety Auditor, the Chief Inspector shall issue certificate of recognition in Form C, within 15 days subject to the following conditions and any other condition as may be specified by the State Government, namely:-
 - (i) Safety Auditor shall maintain a log book of all safety audits undertaken by him indicating the name and address of the audited factory, name of the person who has carried out safety audit, contact persons, date of the audit and date of submission of the audit report to the Occupier. It shall be produced as and when required by officers of the Directorate of Industrial Safety and Health.
 - (ii) Safety Auditor and the person authorized to carry out shall not conduct a Safety Audit of any factory where such auditor or person is employed, or an occupier, partner, director, or manager of that factory, or of any factory owned, operated, managed, or conducted by immediate family members, relatives or extended family members or wherein that auditor or such person has any direct or indirect interest whatsoever. An auditor or such person shall not carry out the safety audit of those factories to which that auditor or such person supplies any plant, machinery, raw material, safety equipments or other materials or equipment.
 - (iii) Safety Auditor and the person authorized to carry out safety audit shall not disclose, even after he ceasing to be a recognized auditor or employee of the institution, any manufacturing or commercial secrets or working processes or other confidential information which may come to his knowledge in the course of their duties as an auditor. Any failure in this regard may make such auditor or person liable for criminal or civil proceedings, in accordance with the law for the time being in force.
- (3) The recognition granted under sub-rule (2) shall be valid for two years from the date of issue of Certificate of Recognition.
- (4) The application for renewal of recognition as a safety auditor shall be made at least three months before the expiry of the period of recognition and the procedure stated in sub-rule (2) shall apply mutatis mutandis for its renewal.
- (5) The applicant shall not be eligible for renewal of recognition as a Safety Auditor if,-
 - (i) the State Government has revoked such recognition in the past on two occasions; or
 - (ii) he has not carried out at least three safety audits of factories in past two years; or
- (6) The State Government may, after giving an opportunity to the Safety Auditor of being heard, revoke the certificate of recognition, if it has a reasons to believe that,-
 - (i) the Safety Auditor has violated any of the conditions stipulated in the certificate of

- recognition or renewal of recognition; or
- (ii) the Safety Auditor has carried out the safety audit in violation of the provisions of the Act or these rules or has acted in a manner inconsistent with the intent or the purpose of the Act or rules made there under or has omitted or failed to act as required under the Act and rules made there under; or
 - (iii) for any other like reason;
7. The Occupier of the factory as well as the Safety Auditor shall inform in writing to the concerned office of the Directorate of Industrial Safety and Health, fifteen days in advance before commencement of the safety audit in a factory.
 8. The Safety Auditor shall within one month from the date of completion of safety audit forward to the Occupier of the factory a Safety Audit Report in Performa prescribed under Schedule II on the letter head and his recommendations regarding improvement of the occupational safety and health in a factory.

Provided that if during safety audit, auditor finds any hazard posing danger of causing an accident, he shall immediately communicate in writing to the occupier as well as to the inspector concerned. In such case the occupier in such case shall take immediate corrective action.
 9. The Occupier shall, within thirty days of the receipt of the Safety Audit Report in Performa prescribed under Schedule II, forward the same to the concerned office of the Directorate of Industrial Safety and Health along with the action taken report in pursuant to the recommendations made in the Safety Audit Report.
 10. On scrutiny of the Safety Audit Report, if it is found that the safety audit is not carried out in accordance with rule 4, the Chief Inspector may communicate the discrepancies to the occupier and Safety Auditor and shall direct the occupier to carry out re-audit only with respect to the discrepancies pointed out by him. Re-audit shall be completed within thirty days from the date of such direction. The provisions of rules 4, 8 and 9 shall apply to such *mutatis mutandis* apply to such re-audit.
 11. (1) Subject to the provisions of sub-rule (2), the State Government may, by order in writing, exempt any factory or category of factories from all or any of the provisions of these rules, subject to such conditions as it may specify in such order.

(2) No order under sub-rule (1) shall be issued unless, in the opinion of the State Government, the requirements of these rules, having regard to the frequency or the nature of manufacturing process carried out in that factory, which involves use, storage, handling or processing of hazardous chemicals or which involves generation of such substances, are impracticable or otherwise not necessary for the safety, health and protection of workers.

(3) Notwithstanding anything contained in sub-rule (1) and (2), the State Government may, in its discretion, by order, revoke the exemption granted under sub-rule (1), at any time.

SCHEDULE I (See rule 5)

The applicant, for being recognized as Safety Auditor, shall possess the following qualifications and experience, etc.:-

1. *Academic Qualification and Experience.*- The applicant shall hold,-
 - (i) degree in branch of Chemical, Mechanical, Electrical or Production Engineering and having five years' experience in manufacturing, maintenance, design, project or safety department in

- the supervisory or above capacity in factories; or
- (ii) diploma in branch of Chemical, Mechanical, Electrical or Production branch Engineering and having seven years' experience in manufacturing, maintenance, design, project or safety department in the supervisory or above capacity in factories; or
 - (iii) degree of Bachelor of Science with Physics and/or Chemistry and having ten years' experience in, manufacturing or safety Department of any factory in the supervisory or above capacity in factories, and one year full time Diploma in Industrial Safety recognized by the Board of Technical Education or All India Council of Technical Education or recognized University; or
 - (iv) degree or diploma in any branch of Engineering and having fifteen years of experience in Factory Inspectorate or Directorate of Industrial Safety and Health or fifteen years of experience in the Director General Factory Advisory Services and Labour Institute or Regional Labour Institute or National Safety Council in the capacity of Assistant Director or above.
2. The applicant shall not be directly or indirectly interested in the factory or in any process or business carried on therein or in any patent or machine connected therewith, in respect of which the safety audit is to be conducted.
 3. If the age of applicant is more than 62 years, he shall submit a certificate of physical fitness for carrying out safety audit of factories issued by civil surgeon or certifying surgeon along with the application for recognition or renewal of recognition.

SCHEDULE II
(See rule 8 & 9)

Performa for Safety Audit Report

1. Name and address of the factory,
2. Name of the Occupier,
3. Date of Audit,
4. List of raw material with maximum storage quantity,
5. List of finished products with maximum storage quantity,
6. Manufacturing process flowchart,
7. P I Diagram of all plants (Chemical Factories),
8. Name of the Safety Auditor and Certificate No. and name of the person who has carried out safety audit,
9. Whether enclosed Safety Audit Report as per IS 14489, or any such standards prevailing at the relevant time, whichever is latest:

Date: _____ Signature of Safety Auditor/
Person or employee of an Institution authorized to carry out
safety audit

I (Occupier) undertake to submit the action taken report on recommendations of Safety Audit on or before

Date: _____ Signature of the Occupier.

FORM- A

[See rule 6(1)]

Application Form For recognition or renewal of recognition of Safety Auditor (to be filled in by individuals)

(In Duplicate)

1. Name :
2. Father/Husband Name :
3. Date of Birth and Age :
4. Permanent Address:
5. Address for : Correspondence
Telephone No. :
Mobile No. :
Fax :
E-mail :
6. Educational Qualification :

Applicant's Latest Photograph signed

(Attach Certified copies)

Sr.No.	Degree/Diploma	College/Institution/University	Year of completion

7. Technical Qualification in Safety (Attach certified copies)

Sr.No.	Degree/Diploma	College/Institution/University	Year of completion

8. Work Experience (Attach certified copies)

Sr.No.	Employment Date		Name and address of Employer	Designation	Nature of work
	From	To			

9. For renewal of recognition.- Certificate No. and date:

10. DECLARATION

I hereby declared that,

- my recognition as a Safety Auditor was not revoked or cancelled by the State Government in the past;
- my recognition as a Safety Auditor was revoked or cancelled in the past, and its details are as follows:-

Date of revocation or cancellation and its order number, if any	Period	
	From	To

Note.-If the recognition was cancelled or revoked twice in the past the Safety Auditor is not eligible for recognition.

c) I have carried out three or more than three, Safety Audits in the past two years, the list showing the name, address of the factory and date of audits are attached herewith.

d) I, ----- hereby declare that the information furnished above are correct to the best of my knowledge. I undertake to:

- (i) maintain the facilities in good working order, and
- (ii) Ful fill and abide by the conditions, if any, stipulated in the certificate of recognition.

Date :

Signature of the Applicant: Full Name:

Place :

FORM – B
[See rule 6(1)]

Form of Application for recognition or renewal of recognition to
an institution as Safety Auditor

Name and full address of the Institution:	
Institution status (specify whether Government, autonomous, co-operative, corporate or private) with registration number:	
a) Name of head of Institution b) Phone/Mobile No. c) E-Mail address d) Fax	
Whether the Institution has been declared as a Safety Auditor by this State or any other State? If so, give details.	
Attach bio-data of at least three employed persons, in the Annexure attached to this application :	
Any other relevant information	
Certificate No. (in case of renewal)	

DECLARATION

I hereby declare that,-

(a) Recognition of the institution as Safety Auditor was not revoked or cancelled by the State Government in the past;
the recognition of the institution as Safety Auditor was revoked or cancelled in the past, its details are as follows:-

Date of revocation or cancellation and its order number, if any	Period	
	Form	To

Note.-If the recognition was cancelled or revoked twice in the past the institution is not eligible for recognition.

(c) The institution has carried out three or more than three, Safety Audits in the past two years, the list showing the name, address of the factory and date of audits are attached here with.I, hereby declare that the persons whose bio-data it attached to the application are employees of the institution whose copies of appointment letters are attached herewith.

(e) I,----- hereby declare that the information furnished above for ----- (name of the institution) is correct to the best of my knowledge. I undertake to,-

(i) notify to the Chief Inspector immediately, in case the employed person on the basis of which this recognition was procured leaves the employment,

(ii) Maintain the facilities in good working order,

(iii) Fulfil and abide by all the conditions stipulated in the certificate of recognition.

Signature of the Head of the Institution: -----

Designation: -----

Place: -----

Date: -----

THE CASE LAW

Before studying any law and citations on it (ie case law) it is important to know the meaning of following legal words. -

1. Law, common law and natural justice.
2. Legislation, legislative process, enactment, statute, statutory, mandatory, notification and ordinance.
3. Bill and statement of objects and reasons.
4. Act, preamble and code.
5. Sections, rules, regulations, schedules & forms.
6. Proviso, exception, exemption, explanation, not withstanding that and save as otherwise provided.
7. Penal section, fine, imprisonment, responsibility, occupier and manager.

All offences under the Factories Act and Rules fall under the category of **absolute criminal liability**, which requires no mens rea or guilty intention to be proved (AIR 1966 Mad 448 and 1964 Vol.2 LLJ, 456). Out of many decided cases a few citations on safety and health matters are mentioned below to highlight the case law.

1. Citations under the Factories Act :

Object of the Act is for the benefit and welfare of the labour class only. AIR 1956 Born. 219.

Interpretation of the Act should be liberal and beneficial AIR 1956 Born. 33, AIR 1966 Guj. 96, AIR 1965, SC 639.

Limitation of prosecution u/s 106 - Knowledge of offence - Date of receipt of accident report by the Inspector is not the date of knowledge of dangerous occurrence. It is the actual date of his personal knowledge. AIR 1973 SC 309.

Where the word 'managei, is used specifically, generally he should be taken as accused though the occupier can be selected instead of manager u/s 52, SC ruling 1965 Vol. I LLJ 419.

Power presses : 1965 Vol. 2 LLJ 472 where section 21- was discussed, 1966 Vol. 2 LLJ 10, 1972 LIC 949, 1966 Vol. I LLJ 280.

1. Transmission Machinery : Height above 15 feet was considered safe by position for which no fencing necessary. 1965 Vol. 2 LLJ 200. In another case height of 9 feet was considered safe for which no-under guard was necessary 1966 Vol. I LLJ 304.
2. Drill machine : Defence that the factory inspector had not pointed out or suggested for guard, it was not provided, cannot be accepted. It was an absolute duty to provide the guard. 1966 Vol. 1 LLJ 705.
3. Calendar machine : Nip guard was necessary, 1966 Vol. 2 LLJ 867.

Spur-gear wheel in oil mill : Defence that the guard was provided but some one else removed it, was not accepted. The words "while the machinery is in motion its dangerous parts shall be securely fenced." were sufficient to constitute the offence u/s 21(l)(iv)(c). State of Gujarat v/ s Jethalal Ghelabhai. SC ruling, 1964, Vol. I LLJ 389.

- 1 It is the duty of the employer who is running a factory to make every sort of protections for the safety of the employees. AIR 1966 Mad 380.
- 2 It cannot be said that if something goes wrong with the machinery while it is in

motion and a part of it slips down, there is no obligation on the employer to protect a workman from injury arising under such circumstances. The basic idea is that the safeguard must be in position so that the rotating or moving part of the machinery is incapable or causing any injury. 1966 Vol. I LLJ 304.

- 3 It is an absolute obligation under the Factories Act to securely fence dangerous parts of machinery. The statute does not say that they should be fenced only if it is commercially practicable or mechanically possible. AIR 1966 MP 324, (1966) 2 LLJ 867.
- 4 The obligation that a dangerous machine shall be securely fenced by safeguards of substantial construction is absolute, and should be complied with regard to all parts of the machinery. (1965) 2 LLJ 472.
- 5 Manager/Occupier cannot escape conviction for failure in securely fencing every dangerous part of machinery unless he has satisfied all requirements of section 22 (1) of the Act. (1965) I LLJ 528.
- 6 Mere fact that the die was not provided with any guard by its manufacture, no effective safety guards could be provided to the die without impairing the working of the machine, cannot affect the employer's responsibility under the law to securely fence the die by safety guards of substantial construction. (1964) 26 FJR 162.
- 7 Section 21(1) (iv) (c) of the Act requires not only that the dangerous part of a machine shall be securely fenced by safeguards, but also that the safeguards are kept in position when the machine is working. AIR 1964 SC 779, (1964) I LLJ 389.
- 8 The obligation of the occupier to securely fence the dangerous parts of the machinery is absolute whether those parts may be in motion or use or not. (1962) I LLJ 607.
- 9 Transmission machinery must be securely fenced unless the same, by reason of its position or construction is safe to every person employed in the factory as it would be if it were securely fenced. AIR 1960 Born. 1.
- 10 In order to claim the benefit of proviso to section 21 (1) (iv) of the Act for getting the occasion excluded, it is a necessary condition that on such occasion the necessary adjustment operation to the moving part of the machinery must be done by a worker specified in section 22 of the Act in the manner provided therein. (1965) I LLJ 528.
- 11 Where instead of complying with the statutory requirements contained in section 24 of the Act and providing the equipment indicated therein, it had been the practice in the concerned factory to effect the movement of the belt with some rod, or crude contrivance which was unsafe, the employer was guilty of negligence under the said section. (1964-65) 26 FJR 153.
- 12 An owner or occupier of a factory cannot plead in his favour ignorance of the law as contained in the provisions of section 28(1) (e) of the Act. He was bound to provide interlocking arrangement required., (1964) I LLJ 689.
1. Only two diagonally opposite chains are necessary and sufficient for working of the tackle. If fourth chain of tackle is allowed to remain in a state of disrepair, the manager of the factory does not contravene the provisions of section 29 (1) (a) (ii) of the Act. (1969) Lab I.C. 783.
4. Failure to cover a pit inside the factory having inherent danger amounts to violation of section 33 of the Act (1967) 2 LLJ 616.
5. No manufacturing process shall be carried on in any building until a certificate of stability of the building has been obtained. Failure to do this is an offence. AIR 1957

Allh. 343.

6. The defence under section 101 of the Act will not be available to an owner of a factory unless he has proved that he had used due diligence to enforce the execution of the Act. AIR 1964 SC 779.
7. Any person found working in the factory can be taken as employed in the factory until it is proved contrary. 1964 (1) LLJ 575.
8. Failure to comply with the provision of sec. 14 is a 'continuing offence'. Prior knowledge of the offence by the Inspector is not a bar in filing a complaint subsequently (1952-53) 4 FJR 231.
Failure to construct a dustproof husk chamber as required under section 14 is a continuing offence. AIR 1962 MP 311. Omission to securely fence fermenting vats is a continuing offence. AIR 1964 Guj. 125, (1964) 5 GLR 29. Omission to provide a canteen is a continuing offence. AIR 1957 All ere (DB). Carrying on a manufacturing process in a building in the absence of a certificate of suitability of the building as required by the rules is also a continuing offence. AIR 1955 Born.161 (DB.)
9. The plea of ignorance of law is not available to the accused under section 28(1) of the Act. 1964 (1) LLJ. 689.
10. Fencing and safeguard should not be such as can be disturbed and removed by a workman. 1972 Mah LJ. 279, 41 FJR 165.
11. A machinery or part thereof is dangerous if in the ordinary course of its working, danger may reasonably be anticipated from it when working without protection, taking into account the various factors incidental to its working, including the carelessness of the workman, AIR 1969 MP 110.
12. S.2 (m), 2 (k)(i) and 2(1) - "Factory", meaning of - Sun cured tobacco leaves subjected to processes of moistening, stripping and packing in a company's premises with a view to their use and transport to company's main factory for manufacturing cigarettes- More than 20 persons under supervision of management working in premises - Held that the manufacturing process was carried on in premises and the persons employed Were workers and premises a factory. Lab IC 1970 S C 56A.
13. S. 2 (k)- "Manufacturing process" - Process of cleaning Water and storing and supplying it by pumping is a manufacturing process. Lab IC 1972 970F Raj.
14. Ss. 33 & 2 (m) - Contravention of Section 33 in regard to a pit which is in the environments of the factory - Necessary proof. Lab IC 1972 772 Born.
15. S. 2 (k) (i) - "Manufacturing process" - Rice mill - Use of huller and sheller for converting paddy into rice and polishing it* is a manufacturing process Lab IC 1976, 1387 (Kant).
16. S. 92 - Karnataka Factories Rules. 1969 Allegation that first aid box was not maintained according to Rules - Prosecution must prove what was wanting in contents of box Lab IC 1976,538D (Kant).
17. S. 21 (1) (iv) (c) read with Bombay Factory Rules (1950), Sch. I, Chap. IV, R. 54 (2) and (3) - Compliance with safety measures is mandatory- Whether employer had foreseen casualty is totally irrelevant Lab IC 1978, 1220 Born.
18. S. 2 (m) and S. 103 - Ten workers found inside an automobile workshop during working hours - Plea that two of them were workers in a rice mill not acceptable Lab

IC 1979, 159A Mad NOC.

S. 2(m), 92 and Rule 4, GFR-'Factory'- meaning of - Construction work - Temporary work done with aid of power at certain places do not amount to 'factory' within meaning of Section 2(m) - Prevailing nature of work to be taken into account- Contract between company and contractor regarding work and labour manufacture of certain materials on same premises - Temporary use for manufacturing such articles with aid of power will not include premises in the term factory. FLR 1980(41)75, Gujarat.

7 S. 2(g), 2(k), 2(m) - Manufacturing process Meaning of-Ironing of stitched clothes with the aid of power by tailoring firms, held, is an integral part of manufacturing process LLN 1985 Vol-II 101.

8 S. 21(l)(iv)(c) & 92- Injury to worker due to alleged failure to securely fence dangerous part of machinery- Evidence of Factory Inspector silent on vital point- In the circumstances order of conviction of appellant- manager set aside LLN 1986 Vol 1 332.

9 S. 2(k) - Petrol pump service station carrying on business of sale of petrol, diesel, lubricants etc. and servicing of vehicles is a manufacturing process LLN 1987 Vol 1 912.

10 S 2(k)- Dairy farm- filling of milk pots for distribution- Also electric pump used for lifting water in farm- Held, manufacturing process 1987 Vol II 704.

11 S.2(l) - Effect of addition of words "including a contractor".

The effect of including the said words in the definition of "worker" is that even a worker engaged through a contractor and working in a factory falls within the definition of worker for the purposes of Factories Act. This was done evidently with a view to ensure that the benefits of the several regulatory and welfare measures provided by the Act extends to such contract labour also.

Govt. of A.P. vs. Bhadrachalam Paper Boards Ltd., 1990 (60) FLR 517 (A.P. - D.B.).

1. Workers-Staff engaged in the clerical work in the factory premises- Whether 'workers' within the meaning of section 2(1) of the Act? Yes. State (By Inspector of Factories, Guddalore) vs. A.K. Gangliu, 1993 LLR 701 = 1993(67) FLR 627 = 1993 II CLR 57 = 1993 I LLN 791 (Mad. HC).

2. Conviction and sentence of respondent on his pleading of offence under section 92 providing minimum sentence of fine not less than 25000Trial court imposed fine of Rs. 200 onlyWhether order is illegal and perverse? Yes.

State of Glljarat vs. B.S. "niakkar, Manager, Diguijay Cement Co. Ltd., 1993 LLR 843 = 1993 (67) FLR 1134 (Guj.HC). See also 1991 (1) 32 (1) GLR71 and 1992 II GLR 229 for State of Gujarat v/s Dr. CK Patel

1. The period of limitation for prosecution in contravening provisions of the Factory Act will be computed from the date of inspection and disclosure of offence.

State of Gujarat vs MIT & MIR Pvt. Ltd. Surat, ,1994 LLR 116 (Guj. HC)

6. Appointment of certain number of safety officers in a factory having chemical plant and blast furnace is a statutory obligation on the part of the employer.

Tata Iron and Steel Co. Ltd. vs Inspector of Factories, Jamshedpur Circle No.I, Jamshedpur and .Others, 1995 LLR 684=1995 II LLN 474 (Pat.HC).

2. Employees of administrative accounts section of a factory will be eligible for overtime.

Chief General Manager, Telecom Factory, Bombay & Ors.vs. All India Telecom Engg. Employees Union & Ors., 1996 LLR 333 (Born.HC).

3. In the event of conflict between the provisions of standing orders and Factories Act, the latter will prevail.

Maharashtra General Kampar Union vs. Bharat Petroleum Corp. Ltd. &Ors., 1996 LLR 900 (Born. HC).

- 1.
2. Failure to provide safety electrical devices (earthing, rubber gloves, shoes etc.) resulting into death of a casual worker will make the employer liable for prosecution and fine. The High Court converted the order of acquittal into a fine of Rs. 50000 (in default, imprisonment for 3 months) each to the manager and occupier, accused, and directed to pay Rs. 50000 to the legal representatives of the deceased worker u/s 357(4) of the Cr. P. C.

State of Karnataka vs. M. Siddappa &Amr., 1997 LLR 411 (Karn. HC).

3. Factories Act, 1948 - S.2 (n) - Occupier in case of a company.

Occupier in case of a company must be one of the Directors. As such relief claiming appointment of a person other than a Director as an occupier cannot be granted.

Tata Oil Mills Co. Ltd. vs. State of U.P., 1997 (2) LLN 681 (All- D.B.).

1. Factories Act, 1948-S.92 read with Rule 61(1)(c)(i) – Punishment for breach of safety measures.

Respondent runs a factory and the Factory Inspector found that the plant was not fitted with necessary safety valve in contravention of the aforesaid statutory provisions. On a complaint. Metropolitan Magistrate fined him Rs. 500/- on his pleading guilty. Hence this appeal for enhancement of sentence.

Held: Factory owner guilty of contravention of safety measures has to be dealt with severally and seriously even on his pleading guilty to the charge. The workmen exposed to such unsafe working conditions in such factories can be said to be their exploitation by owner of such factories. The sentence of fine of Rs.500/- is enhanced to Rs. 5000/-.

State of Gujarat vs. Sandeep Bhandari 1997 I CLR 1048 (Guj. H.C.).

1. Factories Act, 1948- S.92- Karnataka Factories Rules, 1969- Rule 86- Statutory duty not complied with.

This is an appeal against an order of acquittal of respondent accused for an offence under S.92 of the Act for contravention of Rule 86. Facts are that worker in the factory of the respondent received electrical shock and died on the spot. It is held that there was sufficient and clinching evidence on record to show that the accused did not provide for rubber gloves and rubber shoes to deceased worker and further that electric installations were not properly maintained by the accused, there was no justification on the part of Magistrate to hold accused not guilty.

State of Karnataka v. M. Siddappa 1997 I CLR 705 (Kam.H.C.). 54 How it should be interpreted.

The Act is meant to provide protection to the workers from being exploited by greedy business establishments and it also provides for the improvement of working conditions within the factory premises. Hence a beneficial construction should be given and the provisions of the Act should be so constructed/interpreted so as to achieve its objects i.e., welfare of the workers and their protection from exploitation and unhygienic working conditions in the factory premises. It is also a cardinal principle of interpretation to give effect to the plain, fair and ordinary meaning to the words if such interpretation is not opposed to the intention of the legislature.

Ravi Shankar Sharma vs. State of Rajasthan 1993 L.L.C.987 (Raj.H.C.). 55

S.2(m) - & 2(k)(i) - Stone crushing unit is a factory.

As per the definition of "manufacturing process" as given in the Act, there can be no doubt that breaking of boulders into chips would be a manufacturing process. For this purpose coming into existence of a new product is not necessary. If that be so, the premises where ten or more persons are working and the operation is carried on with the aid of power has to be regarded as a factory.

M/s. Larsen & Toubro Ltd. vs. State of Orissa 1992 LIC 1513 (On. - D.B.). 56

S.21(l)(i)(iv)(c) and S.92 - Enhancement of sentence.

This criminal appeal is filed for enhancement of sentence of fine of Rs.2000/- for an offence punishable under S.92 of the Factories Act, 1948. It is unfortunate and shocking that the Magistrate failed to note the minimum sentence of fine of Rs.5000/- for the offence. He was even not conscious of the object underlying the beneficial piece of legislation viz. Factories Act, 1948. Such gross defiance of law, prima facie, is serious dereliction of duty and unbecoming on the part of any learned Magistrate. The sentence of fine is enhanced to Rs.5000/-. Action is directed against the Magistrate.

State of Gujarat vs. Ishwarbhai Harkflabhai Patel 1994 II CLR 721(Gij.H.C.).

1. S.36 - (as it stood before its amendment by Act 20 of 1987) - Interpretation of sub-section (5) of S.36 -

There is no absolute duty cast on employer to prevent entry - Burden is on prosecution to prove that employer had not taken all reasonable steps for preventing entry and not on employer to prove that he had taken all reasonable steps. If necessary instructions are issued by employer and worker acts in contravention of those instructions, employer cannot be held responsible for violation of S.36(5).

State of Gujarat vs. Dilipkumar Dahyabhai Patel & Anr.1995 II CLR 497 (Guj H.C.).

S.40-B and W.B. Factories, (Safety Officers) Rules, 1978 - Rule 3(b) - Appointment - Compliance of two pre-conditions

The petitioner, who was appointed as safety officer, challenges, termination of his service to be against the provisions of the Rules.

High Court has not accepted the challenge observing as follows :

Appointment of safety officers, is mandatory on existence of two conditions :

(i) wherein 1000 or more workers are ordinarily employed and the State Government

issues notification requiring the occupier to appoint safety officer or officers and (ii) wherein the State Government is of opinion wherein manufacturing process is carried which involves risk etc. and issuance of notification in above manner. Issuance of notification is a indispensable condition for employment of safety officers in terms of S.40-B of the Factories Act. In the instant case no such notification was issued. Thus the mandatory requirement of S.40-B cannot be said to have been fulfilled to make employment of the petitioner as Safety Officer within the meaning of clause 3(b) of the Rules of 1978. The termination was thus not violative of the Rules.

Debesh Kumar Bhattacharya vs. Rishra Steel Ltd. & Ors.1994 II CLR

944 (CaL H.C.).59 S.41-A - Safety precautions in handling chemicals.

The Union of employees filed writ petition to direct Chief Inspector of Factories to enforce safety precautions in the factory. Inspector of Factories had given certain directions to the management of the factory and thereafter he again visited the factory and submitted report. High Court considered the same and accepted the report and dismissed writ petition. The Union filed this appeal against said order. In appeal it is observed that new complaints regarding atmosphere pollution and provision of insurance cover to employees cannot be entertained as they are not the grievances in the main writ petition.

Addision Paints and Chemicals Ltd. vs. Chief Inspector of Factories 1993 II L.L.N. 728 (Mad.D.B.).

2. Ss82 and 106 - Magistrate dismissing complaint made by Inspector under S.92 on preliminary contention that it was filed beyond period of limitation of three months as prescribed under S.106. In fact complaint was filed within three months of the date on which commission of offence came to knowledge of Inspector - Matter remanded - Practice of disposing of cases on grounds such as (i)complainant absent, (ii) no witnesses examined, or (iii) accused pleading guilty, deprecated.

State ofGujarat vs. Mit and Mir Private Ltd., Swat 1994-1 CLR 149 (Guj.H.C.).

- 6.3 S.92 - Karnataka Factor Rules, 1969 - Rules 84 and 88 - Negligent shunting of carriages Occupier not responsible.

Accident took place in Railway Workshop due to negligent shunting of carriages. Occupier is prosecuted for contravention of Rules 84 and 88. He filed this petition praying for quashing of proceedings against him.

Held : Rule 84 prohibits any process of work which is likely to cause risk of bodily injury to be carried on in the factory. It is not complainant's case that the work of shunting which was done within the factory premises was likely to cause risk of bodily injury. Rule 84 is therefore not affected. If due to negligence in carrying out a work which is permissible, an accident takes place, the occupier cannot be held responsible for contravention of Rule 84. So far as Rule 88 is concerned, if bodily injury is caused to a worker not on account of any inherent defect in the construction, situation, operation or maintenance of the means of transport, but on account of negligence of another employee, then it cannot be said that there -is any contravention of Rule 88.

Proceeding of prosecution against petitioner occupier is quashed. Ramchandra vs. A.R. Vijendra 1994 II CLR 946 (Kar.H.C.).

62 S.92 - Proviso - Minimum sentence is prescribed.

The accused pleaded guilty for having committed offence under S.29(l)(a) and S.29(l)(b) of the Act and was awarded fine of RS.100/-. Proviso to S.92 provides that the fine shall not be less than RS.1000/-. Merely because the accused pleaded guilty is no reason to award punishment lesser than the minimum.

State of Gujarat vs. Mahavir Prasad Jain 1992 I CLR 863 (Guj. H.C.).

63 Ss.92, 52, 2(m)(ii) and 6 - Opportunity of hearing to find if establishment is a factory.

Prosecution is lodged against the petitioner as failed to comply with the provisions of the Act and Rules. In a challenge against the same, it is urged that before filing the complaint opportunity for hearing should have been given to the petitioner.

Rejecting the submission, it is observed that there is no provision under the Act that before launching prosecution, there should be first determination of the fact whether the establishment is a factory or not. This is a question of fact which can be gone into only during the course of hearing.

Prabhu dayal Gupta vs. State of Bihar 1993 (66) F.L.R. 398 (Pat.H.C.).

64 S.92 and Gujarat Factories Rules - Rule IIO-A Not providing identity cards is serious breach.

Offence of not providing identity cards to workers under S.92 read with Rule IIO-A is not trivial or technical but is grave and serious. For such an offence fine of Rs.20/- is not only unduly lenient and manifestly unjust but is quite ridiculous and travesty of justice. In the circumstances, sentence is enhanced to fine of Rs.1020/-

State of Gujarat vs. Lallubimi Tliakorb1im Desai 1994 I CLR 610 (Guj. H.C.). S.94 - Plea of guilty not proper.

1. Accused repeated the offence under S.92 of the Act within span of two years. Under S.94 for such repeated offence, the punishment of fine is not less than Rs.10000/-. Accused pleaded guilty but in the said plea, the element of defence and justification for wrong doing were incorporated. Such a plea cannot be acted upon. Proceeding remanded.

State of Gujarat vs. Dineshchandra Hirabhai Patel 1993 II CLR 607

(Guj.H.C.). 66 S..94 - Plea of guilty.

The accused gave a plea of guilty in writing wherein he cleverly put some more facts either by way explaining away or justifying the alleged wrong committed by him. Such a plea cannot be said to be plea of guilty at all. Proceeding remanded.

State of Gujarat vs. Harishbhai Veljibhai Tilakkar 1994 II L.L.N. 342

(Guj.H.C.). 67 S.94 - Repeated offences - Judicial Magistrate F.C. has no jurisdiction.

S.94 provides a higher punishment viz. 3 years imprisonment and fine which shall not be less than RS. 10000/- when the offence is repeated. The Judicial Magistrate F.C. cannot impose such sentence and as such he has no jurisdiction to try the said offence. Chief Judicial magistrate is required to try the same.

State of Gujarat vs. Harishbhai Veljibhai TIlakkar 1994 II L.L.N. 342 (Guj.H.C.).

3. High court or Supreme court will not quash FIR lodged by the Factory inspector. S.M. Datta v. State of Gujarat & Anr., 2001 LLR 1076 (SC).

4. An occupier of a factory owned by Government need not be Director of the company. Container Corporation of India Ltd. V. Lt. Governor, Delhi & Ors., 2002 LLR 1068: 2002 LIC 2649: 2002-111 LLJ 447 (Del. HC).

1 Section wise Citations :

Table 27.4 is useful to find out section wise citations. Only a few citations are given and many more can be added:

Table 27.4 :Section wise Citations

Section of the Factories Act.		Subject in Brief	Citation.
2 (m)		Substations and zonal stations are not factories.	1972 Lab. I.C. 1438 (SC)
2 (n)		Difference between occupier and owner.	(1) L L J 12
21	1	Shifting or repairs of machinery are not normal operation in the working go machinery. Therefore the section does not apply.	AIR 1960 Bom 1
	2	Removable guards are not secured guards, Employer is guilty.	AIR 779 1 2 6 S 4 C
	3	Grinding Wheel, dangerous part	(1) ALL 1955 ER 870
	4	Dangerous parts.	(1) L L J 1966 705.
	5	Risk must be reasonably foreseeable.	(2) L L J 1965 200
	6	Failure of inspector to point out guard is no defence.	(1) L L J 1966 705
29		Chains: Number necessary for launder.	1969, L.I.C.783
49		Meaning of 'ordinarily' Section 49 can apply to sugar factories.	6 DRL All 297.
62		Failure to maintain register is one offence. If name of any one worker is not therein then, it is failure to maintain register.	(2) L L J 1952 80
101		Any one means any one and not more of the partners/ directors.	(1) L L J 1960 42,
105		CIF can file complaint as an inspector.	AIR 1960 ALL 1 (373, 9 1

			6) 0
		LLJ 288	
106	1	Period of limitation	(L 2 L) J 1961 717.
	2	Report of accident	L 2 I 7 C 4 1947 (SC)

CHAPTER - 2

LAWS ON CONSTRUCTION SAFETY :

Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996;

This Act (No. 27 of 1996) came into force from 1-3-1996. It extends to the whole of India. The Act has II chapters and 64 sections.

Preamble: It states that this Act is to regulate the employment and conditions of service of building and other construction workers and to provide for their safety, health and welfare measures and for other matters connected therewith or incidental thereto.

Amenability: The Act applies to every establishment (an individual, firm, association, company, contractor. Government etc.) which employs or had employed on any day of past one year ten or more building workers in any building or other construction work.

It does not apply to an individual who constructs his own residence costing less than Rs. 10 lakhs.

Definitions : Section 2 defines appropriate government (means Central or State Govt), Board, building or other construction work, building worker, Chief Inspector, Director-General, employer (Govt authority, contractor), establishment, fund, wages etc.

Scope : The Act has chapters on advisory and expert committees, registration of establishments and building workers as beneficiaries, welfare boards, working hours, welfare and other conditions, safety and health measures, inspecting staff, special provisions, penalties (max. Rs. 2000 or 3 months or both) and procedure and miscellaneous.

Welfare: Powers are given to the States to constitute a Welfare Board and the Central/State Government can make rules for prescribing working hours, intervals, rest day, double wages if worked on rest day, overtime wages at twice the ordinary wages, records & registers, latrines & urinals for more than 50 workers, temporary living accommodation (free of charge) which shall be removed or demolished after the work is over, first aid and canteen facilities for employing more than 250 workers.

The Act prohibits to employ person who is deaf or has a defective vision or a tendency to giddiness to avoid accident,

The Act provides for drinking water points situated 6 mt. away from any washing place, urinal or latrine, and crèche rooms for more than 50 female workers for their children under the age of six years.

Safety and Health Measures (Chapter 7, Sec. 3841):

They are as under :

1. For 500 or more workers. Safety Committee is necessary.
2. For 500 or more workers qualified Safety Officer is necessary.
3. Notice of accident is required for disablement of more than 48 hours. If 5 or more persons die, inquiry within one month is required.
4. Central/State Government has power to make rules pertaining to

- a) Scaffolding at various stages, means of support and safe means of access.
- b) Precautions while demolition, shoring etc.
- c) Competent person to control hazards of explosion or flying material.
- d) Competent persons to drive or operate transport equipment such as locomotives, trucks, wagons, cranes, trailers, etc.
- e) Hoists, lifts, lifting gear, their testing, heat treatment and precautions while rising or lowering loads etc. and requirement of competent persons.
- f) Sufficient and suitable lighting.
- g) Adequate ventilation at work place, confined space and prevention of dust, fumes, gases, vapours etc.
- h) Precautions while stacking, unstacking, stowing, unstowing and handling of materials or goods.
- i) Safeguarding of- machinery.
- j) Safe handling and use of pneumatic tools, equipment, etc.
- k) Fire precautions.
- l) Maximum weight to be lifted or moved.
- m) Safety of workers while transporting them by water and their rescue from drowning.
- n) Safety of workers from live electric wires, overhead wires and electrical machinery, apparatus and tools.
- o) Safety nets, safety sheets and safety belts as per need.
- p) Standards of compliance with regard to scaffolding, ladders, stairs, lifting appliances, ropes, chains, & accessories, earth moving equipment and floating operational equipment.
- q) Precautions while pile driving, concrete work, work with hot asphalt, tar etc. insulation work, demolition, excavation, underground construction and handling materials.
- r) Safety policy.
- s) Information of Bureau of Indian Standards under the Bureau of Indian Standards Act, 1986, (63 of 1986). Regarding use of any articles or process covered under that Act.
- t) Medical facilities for building workers.
- u) Any matter concerning the safety and health of building/construction workers.

5 The Central Government may frame model rules in respect of matters stated above which shall be followed by the State while making their rules.

Inspection Staff (Chapter-8, S.42,43) : The Central Govt. may appoint the Director-General of Inspection and the State Govt. may appoint the Chief Inspector of Inspection of Building and Construction and both the Governments may appoint necessary Inspectors for local limits. All such Inspectors are public servants u/ s 21 of the IPC. Any document or information shall be produced to the Inspector u/s 175 & 176 of the IPC, and Sec. 94 of the Cr. P. C. is also applicable for the power of search & seizure. Wide powers are prescribed u/s 43 for the Inspectors.

Special Provisions (Chapter-9, S.44 to 46) : An employer is responsible to provide constant and adequate supervision to prevent accidents and to comply safety provisions under this Act (S.44), to pay wages and compensation to building workers (S.45) and to give notice of commencement of building or other construction work at least 30 days before to the Inspector concerned (S.46).

Next Chapter-10 (S.47 to 51) provides for penalties and procedure and Chapter-11 (S.56 to 64) for delegation of powers, returns, protection of action taken in good faith and power' of Central Government to give directions, to remove difficulties and to make rules.

The Building and other Construction Workers" Welfares Act, 1996 (No. 28 of 1996), received the assent of the President on 19-8-1996 and came into force from 3-11-1995. An employer is required to pay more than 1% but less than 2% of the cost of construction for the purposes of the Act No. 27 of 1996. The local authority or the State Government can collect the in advance while giving approval of a building or construction and shall pay to the Board after deducting the cost of collection not exceeding 1% of the amount collected. Late payment interest is 2% per month on the unpaid amount and a penalty not exceeding the amount of is also chargeable after giving opportunity to be heard.

Building and other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998:

U/s. 62 and Sec. 40 of the Act (previous Part 7.1), the Central Government made these rules. They came into force from 19-11-1998.

They apply to the work under the jurisdiction of the central Government. They have 5 parts, 30 chapters, 252 rules, 12 schedules and 26 forms. Section-2 gives 74 definitions most of which are technical terms. Thus these rules are very exhaustive and contain many technical details.

Part wise subject division is as under:

Part I Preliminary	Chap I	II R. 1 to 9.
Part II Central Advisory Committee	Registration of Establishments	Chap III to V R. 10 to 33.
Part III Safety & Health	Chap VI to XXV	R. 34 to 233.
Part IV Hours of work. Welfare	Payment of Wages	Registers & Records etc. Chap XXVI to XXIX R. 234 to 249.
Part V Chap XXX	Miscellaneous provisions.	R. 250 to 252.

Thus out of 252 rules, 200 are pertaining to Safety & Health and mostly require engineering knowledge.

Chapter wise subject matter is as under :

Chapter-1 Preliminary (R. 1 to 4) :Short title, application, commencement, definitions, interpretation of words not defined and savings.

Chapter-11 Responsibilities and Duties of Employers, Architects, Project engineers & Designers, Building workers etc. (R. 5 to 9): Rule 5 pertaining to duties of employer and Rule 8 regarding duties of workers are important They have to comply with the provisions of these rules, maintain lifting appliance, transport equipment and all safety devices conforming to safety standards, testing etc., discover and report defects if any, not to remove or interfere with fencing, gangway, gear, ladder, life saving appliances etc., to use only safe means of access and to keep latrines, urinals, washing facilities and canteen in clean and hygienic condition.

Chapter-111 Central Advisory Committee (R. 10 to 22): Constitution of the Committee, terms of office, membership, staff, meetings, quorum etc. are prescribed.

Chapter-IV Registration of Establishment (R. 23 to 27): Application for registration in triplicate in Form1, with fees (by DD) to the Registering Officer, grant of certificate of registration (Form-11), Register of Registration (Form-111), and conditions of registration. Fees as under:

Building workers up to 100	-	Rs. 100
101 to 500	-	Rs. 500
501 and more	-	Rs. 1000

Chapter-V Appeals, Copies of Orders, Payment of Fees, etc. (R. 28 to 33): Appeal and hearing procedure is prescribed. All fees are to be paid by a crossed DD.

Chapter-VI Safety & Health, General Provisions (R. 34 to 54): Noise level within limits (Sch. VI), fire protection, emergency action plan for site employing more than 500 workers, fencing of machinery, manual lifting within limits (adult man 55 kg, adult woman or adolescent male 30 kg and adolescent female 20 kg), Health & Safety policy for employing 50 or more workers. Carbon monoxide below 50 ppm and removal of hazardous dust, gas, fumes and oxygen deficiency from any confined space, overhead protection for a building under construction of 15 mt or more in height, the width of protection should be more than 2 mt and height less than 5 mt above the base of the building, protection against slipping, tripping, cutting, drowning and falling hazards, safety net and other adequate equipment to prevent fall, PPE for protection of eye, head and safety from corrosive chemicals, control of electrical hazards, vehicular traffic, stability of structures, illumination of passageways, stacking of materials, disposal of debris, numbering and marking of floors and use of safety helmets and shoes conforming to IS.

Chapter-VII Lifting Appliances and Gear (R. 55 to 81):All lifting appliances including their parts and working gear, whether fixed or movable should be of sound construction, sound material, adequate strength and maintained in good repair and working condition (R. 55). Provisions for test and examination by a competent person at every 5 years in the manner specified in Sch.I, automatic safe load indicators, safe installation, winches, buckets, safe working load, loading safely and within SWL, operator's cabin, operating instructions, hoists, fencing, rigging of derricks, securing of derrick foot, yearly examination of lifting gears, ropes, heat treatment, register of testing (Form V to X and XXVI), vacuum and magnetic lifting gear, knotting of chains & wire ropes, carrying of persons, attachment of loads, tower cranes and qualification of operator are also prescribed.

Chapter-VIII Runways and Ramps (R. 82 to 85): Runways or ramps to be used by building workers should have width more than 43 cm, plank thickness 2.5 cm or more, open sides above 3 mt should have guard rail of 1 mt height and sufficient strength. Runway or ramp to be used by transport equipment should have a width more than 37 mt with timber curbs of 20 cm x 20 cm in width and placed parallel to and secured to the sides of such runway or ramp. Slop of ramps less than 1 in 4, continuous rise less than 3.7 mt and no more rise without broken by horizontal landing of length 1.2 mt or more. Runway or ramp to be used for wheel-barrows, hand carts or hand trucks should have width more than a metre with plank thickness more than 5 cm.

Chapter-IX Work on or adjacent to Water (R. 86, 87): Water transport vessel with responsible person, life buoys on deck, prevention from drowning by fencing and suitable rescue equipment etc. are prescribed.

Chapter-X Transport and Earth moving equipment (R. 88 to 95) : They should be of sound construction and sufficiently strong for the purpose, of sufficient size, duly certified, inspected weekly and safe carrying capacity marked. Power trucks and tractors with effective brakes, head lights, tail lamps, tie chains etc.

Power shovels and excavators, bulldozers, scrappers, mobile asphalt layers and finishers, pavers and road rollers should have silencers, tail lights, power and hand brakes, reversing alarm and search light for forward and backward movement. Pavers should have guards to prevent workers walking under their skip. While moving downhill the engine should be in gear. Open light is not permitted to see level of asphalt. Load bearing capacity of the ground should be examined before using a road roller.

Chapter-XI Concrete Work (R. 96 to 107) : In addition to general provisions regarding use of concrete, specific safety and health provisions are prescribed for preparation and pouring, erection of concrete structures, buckets, pipes & pumps, mixing and " pouring of concrete, panels & slabs, stressed and tensioned elements, vibrators, inspection & supervision, beams, floors and roofs, stripping and re-shoring.

Chapter-XII Demolition (R. 108 to 118) :Provisions are made for preparation before demolition, protection of adjacent structures, demolition of walls, partitions etc., method of operation, access to floor, demolition of structural steel, storage of material, floor openings, inspection, warning signs, barricades and mechanical methods of demolition (i.e. by swinging weight, clamshell bucket, power shovel, bulldozer etc.).

Chapter-XIII Evacuation and Tunneling Works (R. 119 to 168): Subjects prescribed are notification of intention to carry out such work, project engineer, responsible person, warning signs and notices, register of employment, illumination, stability of structure; piling, shoring & bracing, safe access, trenches, depth of trenches, positioning and use of machinery, breathing apparatus, safety measures for tunneling operation, pneumatic tools, shafts, lift for shaft, means of communication, signals, clearances, shelters, use of internal combustion engine, inflammable oils, coupling and hoses, hose installation, fire resistant hoses, flameproof equipment, storing of oil and fuel underground, use of gases underground, water for fire fighting, flooding, steel curtains, rest shelters, permissible limit of exposure of chemicals (Sch. XII), ventilation, air supply intake point, emergency generators, air mains, bulk head and air-locks, diaphragms, portable electric hand tools (up to 24 volts), circuit breaker, transformer, live wires, welding sets, quality and quantity of air (more than 0.3 m³/ min/person), working temperature (less than 29°C), man-locks and working in compressed air environment, safety instruction and medical lock.

Chapter-XIV Steep Roof (R. 169 to 171):Safety measures are prescribed for work on steep roofs, construction and installation of roofing brackets and crawling boards.

Chapter-XV Ladders & Step-ladders (R. 172 to 174):Provisions are made for their construction and safe use, rungs and materials.

Chapter-XVI Catch platform and Hoarding, Chutes, Safety belts & Nets (R. 175 to 180) : Provisions are made for catch platforms (minimum width 2 mt, inclined height 1.5 mt and open end with fencing of 1 mt height), hoarding for protection of workers, chutes and its use, safety belts, • nets, their use and storage.

Chapter-XVII Structural Frame & Frame work (R. 181 to 185) :Provisions are made for trained workers for erection of structural-frame and framework, formwork, false work, shoring and deshoring, erection and dismantling of steel and prefabricated structure.

Chapter-XVIII Stacking & Unstacking (R. 186, 187) : This should be in a safe way, on firm foundation, not against weak partition or wall, safe means of access for a height above 1.5 mt, under supervision, 10 cement (lime etc.) bags in a pile and adequate support for more height, storing of cement or lime in dry place, bricks, tiles or blocks on firm ground, steel according to its shape, size and length and at the lowest level, pipe should not fall by rolling, angle of repose (See Table-21 of Chapter32) of loose materials to be maintained and dust mask for handling of dust laden material.

Chapter-XIX Scaffold (R. 188 to 205) : Provisions are made for scaffold construction (bamboo or metal), supervision by a responsible person, maintenance, standards, ledger, putlogs, working platform, board, plank and decking, repair of damaged scaffold, opening, guardrails, scaffold used by building workers of different employers, protection against electric power line, screening net and wire nets, tower scaffold, gear for suspension of scaffold, trestle scaffold and cantilever scaffold, scaffold supported by building, use of winches and climbers for suspended scaffold and safety devices for suspended scaffold.

Chapter-XX Cofferdams and Caissons (R. 206,207): These should be of good construction, sound material, of adequate strength and inspected by a responsible person. Safe means of access, work under supervision and work in compressed air as per standard laid down procedure. Pressure plant and equipment should be examined by a competent person and maintained in good repairs and working condition. Safety valve, pressure gauge (dial range within 1.5 to 2 times the maximum working pressure) and stop or isolation valve are also necessary.

Chapter-XXI Safety Organization (R: 208 to 211): Safety Committee is necessary where 500 or more building workers work. Equal number of members from employer and employees Meeting monthly. Senior person having overall control over the affairs of the construction site should be the chairman. Main function prescribed. Agenda and minutes should be circulated and shown to the Inspector on demand.

Safety Officer is necessary where 500 or more building workers work. Their number, qualification, condition of service (including status and scale), duties and facilities are prescribed in Sch. VIII.

Requirement of Safety officers is as under :

Up to 1000 building workers	-	1 Safety Officer
Up to 2000	-	2 Safety Officer
Up to 5000	-	3 Safety Officer
Up to 10000	-	4 Safety Officer

For every additional 5000 workers, one more safety officer is required.

Qualification required is B.E., B. Tech or B. Arch with 2 years experience or Diploma holder with 5 years experience and a degree or diploma in industrial safety with an elective subject of construction safety. Other experience is also prescribed. Their duties are reproduced below from Sch. VIII.

- I. To advise the building workers in planning and organizing measures necessary for effective control of personal injuries;
- II. To advise on safety aspects in a building or other construction work and to carry out detailed safety studies of selected activities;
- III. To check and evaluate the effectiveness of action taken or proposed to be taken to prevent personal injuries;
- IV. To advise purchasing and ensuring quality of personal protective equipment confirming to national standards;
- V. To carry out safety inspections of building or other construction work in order to observe the physical conditions of work, the work practices and procedures followed by building workers and to render advice on measures to be adopted for removing unsafe physical conditions and preventing unsafe actions by building workers;

- VI. To investigate all fatal and other selected accidents;
- VII. To investigate the cases of occupational diseases contracted and reportable dangerous occurrences;
- VIII. To advise on the maintenance of such records as are necessary with regard to accidents, dangerous occurrence and occupational diseases;
- IX. To promote the working of safety committees and to act as an advisor to such committees;
- X. To organize, in association with concerned departments, campaigns, competitions, contents and other activities which will develop and maintain the interest of building workers in establishing and maintaining safe conditions of work and procedures;
- XI. To design and conduct, either independently or in collaboration with other agencies, suitable training and educational programmes for prevention of accidents to building workers;
- XII. To frame safe rules and safe working practices in consultation with senior officials of the establishment;
- XIII. Supervise and guide safety precautions to be taken in building and other construction work of the establishment.

Fatal accident shall be reported - within 4 hours and non-fatal - causing disability of more than 48 hours - accident shall be reported within 72 hours to the Regional Labour Commissioner (Central), Board, Director General and the near relative of the deceased. It should be in the Form No. XIV. Procedure for enquiry into cases of accident or dangerous occurrence is also prescribed u/r 211,

Chapter-XXII Explosives (R. 212, 213): All explosives at construction site should be used, stored or handled as per MSDS and provisions of the Explosives Act and Rules. Prohibition of smoking and sources of ignition, safe distance and use of Non sparking tools while opening packing, prior warning and danger signals before use, avoiding injury and use under supervision are all necessary.

Chapter-XXIII Piling (R. 214 to 222): Provisions are made for good design, construction, operation, inspection and maintenance of pile driving equipment, considering ergonomic principles, electrical safety, air or steam hammer, stability of adjacent structure, protection of operator, instruction and supervision, entry of unauthorized person, working platform on piling frames and pile testing.

Chapter-XXIV Medical Facilities (R. 223 to 232): Provisions are made for pre and periodical medical examination of workers as per Sch-VII, by the doctors and hospitals approved by the Central Government, certificate of medical examination in Form No. XI, record in Form No. XII, duties of construction medical officers, occupational health centre for hazardous processes mentioned in Sch. IX with services and facilities laid down in Sch. X and qualification of a Construction Medical Officer in Sch. XI, ambulance room equipped with the articles specified in Sch. IV with necessary staff and records, ambulance van specified in Sch. V, stretchers, occupational health services, notice of poisoning or occupational diseases specified in Sch. II and notice in Form No. XIII, first-aid boxes with articles specified in Sch. III and emergency care services or treatment with essential life saving aids and appliances as mentioned in R. 232.

Chapter-XXV Information to Bureau of Indian Standards (R. 233): Details regarding performance, deviation or shortcomings of the building materials, articles or processes

against IS prescribed shall be furnished to the Bureau of Indian Standards. In case of no IS prescribed, suggestions for improvement shall be given to the Bureau to consider and form necessary standards.

Chapter-XXVI Hours of work. Rest intervals and Weekly off etc. (R. 234 to 237) :

Provisions are made for 9 hours a day or 48 hours a week, rest interval of at least half an hour before more than 5 hours work, spread-over 12 hours on any day, double wages for overtime work or working on rest day, weekly rest day with its previous intimation notice, substituted holiday on one of the five days immediately before or after such rest day and to be given before ten days continuous working.

Chapter-XXVII Notices, Registers, Records and Collection of Statistics (R. 238 to 242)

: Notices of rates of wages, hours of work, wage period, date of payment of wages, names and addresses of the concerned Inspectors and date of payment of unpaid wages in English, Hindi and local language with a copy to the concerned Inspector are required.

Notice of commencement and completion of work in Form No. IV before 30 days and notice of change in this notice within 2 days of the change are also necessary.

Following registers are required:

Register	Form No.
Register of workers	XV
Muster roll	XVI
Register of wages	XVII
Wage –cum-muster roll where a wage period is 15 days or less	XVIII
Register of deductions for damage or loss	XIX
Register of fines	XX
Register of advances	XXI
Register of overtime	XXII
Wage book (for a wage period one week or more)	XXIII
Service certificate	XXIV

Registers under Payment of Wages Act, Maternity Benefit Act and Contract Labour Act shall be deemed to be the respective registers. A combined or alternative form in lieu of above Forms shall require -prior approval of the Central Government. All registers/records should be maintained up-to-date, kept at the workplace, preserved for 3 years and produced on demand before the authority.

An annual return in Form Number XXV shall be sent before 15th February to the registering authority with a copy to the Inspector concerned.

Chapter-XXVIII Welfare (R. 243 to 247): Separate latrines or urinals (as required u/s 33 of the Act) for male and female workers, canteen for more than 250 workers at a distance mt away from any latrine, urinal or source of dust, smoke or obnoxious fumes. Tea and snacks shall be served at a workplace 200 mt from the canteen.

Chapter-XXIX Wages (R. 248, 249):Wages shall be paid before 7th day (workers<1000) or 10th day (workers>1000) of the wage period concerned. In case of termination it shall be paid before the expiry of the second working day from the date of termination. A notice of wage period, date, time and place of payment shall be displayed in English, Hindi and the local language.

Chapter-XXX Powers of Director General and Inspectors (R. 250 to 252) :Powers to engage experts and agencies and powers of Inspectors including prohibition order are prescribed.

The Building and other Construction Workers' Welfare Act 1996 and Rules 1998 provide for levy and collection of on the cost of construction to generate fund for Building and other Construction Workers Welfare Board constituted under the main Act (Part 7.1).

THE BUILDING AND OTHER CONSTRUCTION WORKERS' WELFARE CESS ACT, 1996

ACT NO. 28 OF 1996

[19th August, 1996.]

An Act to provide for the levy and collection of a cess on the cost of construction incurred by employers with a view to augmenting the resources of the Building and Other Construction Workers' Welfare Boards constituted under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996.

BE it enacted by Parliament in the Forty-seventh Year of the Republic of India as follows:—

1. Short title, extent and commencement.—(1) This Act may be called the Building and Other Construction Workers' Welfare Cess Act, 1996.

(2) It extends to the whole of India.

(3) It shall be deemed to have come into force on the 3rd day of November, 1995.

2. Definitions.—In this Act, unless the context otherwise requires,—

(a) “Board” means a Building and Other Construction Workers' Welfare Board constituted by a State Government under sub-section (1) of section 18 of the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 (27 of 1996);

(b) “Fund” means the Building and Other Construction Workers' Welfare Fund constituted by a Board;

(c) “prescribed” means prescribed by rules made under this Act;

(d) words and expressions used herein but not defined and defined in the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 (27 of 1996) shall have the meanings respectively assigned to them in that Act.

3. Levy and collection of cess.—(1) There shall be levied and collected a cess for the purposes of the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 (27 of 1996), at such rate not exceeding two per cent. but not less than one per cent. of the cost of construction incurred by an employer, as the Central Government may, by notification in the Official Gazette, from time to time specify.

(2) The cess levied under sub-section (1) shall be collected from every employer in such manner and at such time, including deduction at source in relation to a building or other construction work of a Government or of a public sector undertaking or advance collection through a local authority where an approval of such building or other construction work by such local authority is required, as may be prescribed.

(3) The proceeds of the cess collected under sub-section (2) shall be paid by the local authority or the State Government collecting the cess to the Board after deducting the cost of collection of such cess not exceeding one per cent. Of the amount collected.

(4) Notwithstanding anything contained in sub-section (1) or sub-section (2), the cess leviable under this Act including payment of such cess in advance may, subject to final assessment to be made, be collected at a uniform rate or rates as may be prescribed on the basis of the quantum of the building or other construction work involved.

4. Furnishing of returns.—(1) Every employer shall furnish such return to such officer or authority, in such manner and at such time as may be prescribed.

(2) If any person carrying on the building or other construction work, liable to pay the cess under section 3, fails to furnish any return under sub-section (1), the officer or the authority shall give a notice requiring such person to furnish such return before such date as may be specified in the notice.

5. Assessment of cess.—(1) The officer or authority to whom or to which the return has been furnished under section 4 shall, after making or causing to be made such inquiry as he or it thinks fit and after satisfying himself or itself that the particulars stated in the return are correct, by order, assess the amount of cess payable by the employer.

(2) If the return has not been furnished to the officer or authority under sub-section (2) of section 4, he or it shall, after making or causing to be made such inquiry as he or it thinks fit, by order, assess the amount of cess payable by the employer.

(3) An order of assessment made under sub-section (1) or sub-section (2) shall specify the date within which the cess shall be paid by the employer.

6. Power to exempt.—notwithstanding anything contained in this Act, the Central Government may, by notification in the Official Gazette, exempt any employer or class of employers in a State from the payment of cess payable under this Act where such cess is already levied and payable under any corresponding law in force in that State.

7. Power of entry.—Any officer or authority of the State Government specially empowered in this behalf by that Government may—

(a) with such assistance, if any, as he or it may think fit, enter at any reasonable time any place where he or it considers it necessary to enter for carrying out the purposes of this Act including verification of the correctness of any particulars furnished by any employer under section 4;

(b) do within such place anything necessary for the proper discharge of his or its duties under this Act; and

(c) Exercise such other powers as may be prescribed.

8. Interest payable on delay in payment of cess.—If any employer fails to pay any amount of cess payable under section 3 within the time specified in the order of assessment, such employer shall be liable to pay interest on the amount to be paid at the rate of two per cent. for every month or part of a month comprised in the period from the date on which such payment is due till such amount is actually paid.

9. Penalty for non-payment of cess within the specified time.—If any amount of cess payable by any employer under section 3 is not paid within the date specified in the order of assessment made under section 5, it shall be deemed to be in arrears and the authority prescribed in this behalf may, after making such inquiry as it deems fit, impose on such employer a penalty not exceeding the amount of cess:

Provided that, before imposing any such penalty, such employer shall be given a reasonable opportunity of being heard and if after such hearing the said authority is satisfied that the default was for any good and sufficient reason, no penalty shall be imposed under this section.

10. Recovery of amount due under the Act.—any amount due under this Act (including any interest or penalty) from an employer may be recovered in the same manner as an arrear of land revenue.

11. Appeals.—(1) Any employer aggrieved by an order of assessment made under section 5 or by an order imposing penalty made under section 9 may, within such time as may be prescribed, appeal to such appellate authority in such form and in such manner as may be prescribed.

(2) Every appeal preferred under sub-section (1) shall be accompanied by such fees as may be prescribed.

(3) After the receipt of any appeal under sub-section (1), the appellate authority shall, after giving the appellant an opportunity of being heard in the matter, dispose of the appeal as expeditiously as possible.

(4) Every order passed in appeal under this section shall be final and shall not be called in question in any court of law.

12. Penalty.—(1) Whoever, being under an obligation to furnish a return under this Act, furnishes any return knowing, or having reason to believe, the same to be false shall be punishable with imprisonment which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

(2) Whoever, being liable to pay cess under this Act, wilfully or intentionally evades or attempts to evade the payment of such cess shall be punishable with imprisonment which may extend to six months, or with fine, or with both.

(3) No court shall take cognizance of an offence punishable under this section save on a complaint made by or under the authority of the Central Government.

13. Offences by companies.—(1) Where an offence under this Act has been committed by a company, every person who, at the time the offence was committed, was in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment if he proves that the offence was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purposes of this section,—

(a) “company” means anybody corporate and includes a firm or other association of individuals;

and

(b) “director”, in relation to a firm, means a partner in the firm.

14. Power to make rules.—(1) The Central Government may, by notification in the Official Gazette, make rules for carrying out the provisions of this Act.

(2) Without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the manner in which and the time within which the cess shall be collected under sub-section (2) of section 3;

(b) the rate or rates of advance cess leviable under sub-section (4) of section 3;

(c) the particulars of the returns to be furnished, the officer or authority to whom or to which such returns shall be furnished and the manner and time of furnishing such returns under sub-section (1) of section 4;

(d) the powers which may be exercised by the officer or authority under section 7;

(e) the authority which may impose penalty under section 9;

(f) the authority to which an appeal may be filed under sub-section (1) of section 11 and the time within which and the form and manner in which such appeal may be filed;

(g) the fees which shall accompany an appeal under sub-section (2) of section 11; and

(h) Any other matter which has to be, or may be, prescribed.

(3) Every rule made under this Act shall be laid, as soon as may be after it is made, before each House of Parliament, while it is in session for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive sessions aforesaid, both Houses agree in making any modification in the rule or both Houses agree that the rule should not be made, the rule shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule.

15. Repeal and saving.—(1) The Building and Other Construction Workers’ Welfare Cess Third Ordinance, 1996 (Ord. 26 of 1996), is hereby repealed.

(2) Notwithstanding such repeal, anything done or any action taken under the said Ordinance shall be deemed to have been done or taken under the corresponding provisions of this Act.

**THE BUILDING AND OTHER CONSTRUCTION WORKERS' WELFARE CESS
RULES, 1998**

In exercise of the powers conferred by sub-section (1) of section 14 of the Building and Other Construction Workers' Welfare Cess Act, 1996 (Act 8 of 1996), the Central Government hereby makes the following rules, namely:—

- 1 **Short title and commencement.**—(1) These rules may be called the Building and Other Construction Workers' Welfare Cess Rules, 1998. (2) They shall come into force on the date of their publication in the Official Gazette.
- 2 **Definitions.**—In these rules, unless the context otherwise requires,—
 - (a) "Act" means the Building and Other Construction Workers' Welfare Cess Act, 1996 (Act 28 of 1996);
 - (b) "Main Act" means the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 (Act 27 of 1996);
 - (c) "Form" means the form annexed to these rules;
 - (d) all other words and expressions used in these rules but not defined and defined in the Act or in the main Act shall have the meanings respectively assigned to them in those Acts;
 - (e) "specified" means specified by a State Government by an order published in the Official Gazette;
 - (f) "Cess Collector" means an officer appointed by the State Government for collection of cess under the Act;
 - (g) "Assessing Officer" means a gazetted officer of a State Government or an officer of a local authority holding an equivalent post to a gazetted officer of the State Government appointed by such State Government for assessment of Cess under the Act;
 - (h) "Appellate Authority" means an officer, senior in rank to the Assessing Officer, appointed by the State Government for the purposes of section 11 of the Act.
3. **Levy of cess.**—For the purpose of levy of cess under sub-section (1) of section 3 of the Act, cost of construction shall include all expenditure incurred by an employer in connection with the building or other construction work but shall not include— —cost of land; —any compensation paid or payable to a worker or his kin under the Workmen's Compensation Act, 1923
4. **Time and manner of collection.**—(1) The cess levied under sub-section (1) of section 3 of the Act shall be paid by an employer, within thirty days of completion of the construction project or within thirty days of the date on which assessment of cess payable is finalised, whichever is earlier, to the cess collector.
(2) Notwithstanding the provisions of sub-rule (1), where the duration of the project or construction work exceeds one year, cess shall be paid within thirty days of completion of one year from the date of commencement of work and every year thereafter at the notified rates on the cost of construction incurred during the relevant period.

(3) Notwithstanding the provisions of sub-rule (1) and sub-rule (2), where the levy of cess pertains to building and other construction work of a Government or of a Public Sector Undertaking, such Government or the Public Sector Undertaking shall deduct or cause to be deducted the cess payable at the notified rates from the bills paid for such works.

(4) Notwithstanding the provisions of sub-rule (1) and sub-rule (2), where the approval of a construction work by a local authority is required, every application for such approval shall be accompanied by a crossed demand draft in favour of the Board and payable at the station at which the Board is located for an amount of cess payable at the notified rates on the estimated cost of construction:

Provided that if the duration of the project is likely to exceed one year, the demand draft may be for the amount of cess payable on cost of construction estimated to be incurred during one year from the date of commencement and further payments of cess due shall be made as per the provisions of sub-rule (2).

(5) An employer may pay in advance an amount of cess calculated on the basis of the estimated cost of construction along with the notice of commencement of work under section 46 of the Main Act by a crossed demand draft in favour of the Board and payable at the station at which the Board is located:

Provided that if the duration of the project is likely to exceed one year, the demand draft may be for the amount of cess payable on cost of construction estimated to be incurred during one year from the date of such commencement and further payment of cess due shall be made as per the provisions of sub-rule (2).

(6) Advance cess paid under sub-rules (3), (4) and (5), shall be adjusted in the final assessment made by the Assessing Officer.

5. **Transfer of the proceeds of the cess to the Board.**—(1) The proceeds of the cess collected under rule 4 shall be transferred by such Government office, Public Sector Undertakings, local authority, or cess collector, to the Board alongwith the form of challan prescribed (and in the head of account of the Board) under the accountings procedures of the State, by whatever name they are known.
- (2) Such government office of Public Sector Undertaking may deduct from the cess collected, or claim from the Board, as the case may be, actual collection expenses not exceeding one per cent, of the total amount collected.
- (3) The amount collected shall be transferred to the Board within thirty days of its collection.
6. **Information to be furnished by the employer.**—(1) Every employer, within thirty days of commencement of his work of payment of cess, as the case may be, furnish to the Assessing Officer, information in Form I.
- (2) Any change or modification in the information furnished under sub-rule (1) shall be communicated to the Assessing Officer immediately but not later than thirty days from the date of affecting the modification or change.
7. **Assessment.**—(1) The Assessing Officer, on receipt of information in Form I from an employer shall make a scrutiny of such information furnished and, if he is satisfied about the correctness of the particulars so furnished, he shall make an order of assessment within a period not exceeding six months from the date of

receipt of such information in Form I, indicating the amount of cess payable by the employer and endorse a copy thereof to the employer, to the Board and to the cess collector and despatch such order within five days of the date on which such order is made.

(2) The order shall inter-alia specify the amount of cess due, cess already paid by the employer or deducted at source and the balance amount payable and the date, consistent with the provision of rule 4, by which the cess shall be paid to the cess collector.

(3) If on scrutiny of information furnished, the Assessing Officer is of the opinion that employer has under-calculated or miscalculated the cost of construction or has calculated less amount of cess payable, he shall issue notice to the employer for assessment of the cess.

(4) On receipt of such notice the employer shall furnish to the Assessing Officer a reply together with copies of documentary or other evidence in support of his claim, within fifteen days of the receipt of the notice: Provided that the Assessing Officer may, in the course of assessment, afford an opportunity to the assessed to be heard in person, if he so requests to substantiate his claim.

(5) If the employer fails to furnish the reply within the period specified under sub-rule (4), or where an employer fails to furnish information in Form I, the Assessing Officer shall proceed to make the assessment on the basis of available records, and other information incidental thereto.

(6) The Assessing Officer may, at anytime while the work is in progress, authorise such officer to make such enquiry at the work site or from documentary evidence or in any other manner as he may think fit for the purpose of estimating the cost of construction as accurately as possible.

8. **Return of overpaid cess.**—(1) Where the Assessing Officer has passed an order of assessment and the employer decides to withdraw from or foreclose the works or modifies the plan of construction thereby reducing the cost of construction undertaken or has been forced by other circumstances to call off the completion of the work undertaken, he may seek revision of the assessment order by making an information in Form II to the Assessing Officer giving details of such reduction or stoppage of work.

(2) Revision of order of assessment shall be made by the Assessing Officer, in the same manner as the original order, within thirty days of receipt of such information in **Form II**. (3) Following the revision of assessment as per sub-rule (2), the Assessing Officer shall, wherever necessary, endorse a copy of the revised assessment to the Board or cess collector, as the case may be, for making the refund of excess cess as ordered in the revised assessment.

(4) The Board shall, within thirty days of receipt of the endorsement from the Assessing Officer under sub-rule (3), refund the amount specified in the order to the employer through a demand draft payable at the station where the establishment is located.

(5) Where the Appellate Authority has modified the order of assessment reducing the amount of cess, refund shall be made within such time as may be specified in that order.

9. **Exemption.**—(1) Any employer or class of employers in a State seeking exemption under section 6 of the Act may make an application to the Director

General of Labour Welfare, Ministry of Labour, Government of India, stating the details of works undertaken, name of the Act or corresponding law in force in that State under which he is liable to pay cess for the welfare of the construction workers and amount of cess actually paid along with the date of such payment and proof thereof. A copy of such application shall be endorsed to each of the Assessing Officer and the board concerned.

(2) On receipt of such application the Central Government may, if it feels necessary, seek a report from the State Government concerned.

(3) On examining the grounds, facts and merits of such application the Central Government may, by notification in the Official Gazette, issue an order exempting the employer or class of employers, as the case may be, from payment of cess payable under the Act where such cess is already levied and payable under such corresponding law.

(4) Assessment proceedings shall be stopped by the Assessing Officer for a period of thirty days commencing from the date of the receipt of a copy of the application under sub-rule (1) to him, or till the order of the Central Government under sub-rule (3) is conveyed to an employer or class of employers who made the application under sub-rule (1), whichever is earlier.

10. Powers of Assessing Officer and other officers.—(1) An Assessing Officer, or an officer authorised under sub-rule (6) of rule 7, if empowered by the State Government under section 7 of the Act, may,—

- (a) enter any establishment where building and other construction work is going on;
- (b) make an inventory of materials, machinery or other articles lying at the work place;
- (c) enquire about the number of workers engaged in various activities;
- (d) require the production of any prescribed register or any other documents relevant to the assessment of cost of construction or number of workers employed;
- (e) seize or take copies of any such records;
- (f) make general assessment of the stage of the construction work having been completed;
- (g) direct the employer or any other person in charge of the place that no material or machinery shall be removed or disturbed for so long as is necessary for the purpose of any examination;
- (h) take measurement, notes or photographs;
- (i) exercise such other powers considered absolutely necessary for reasonable assessment of cost of construction.

11. Date of payment.—Date of payment of cess shall be the date on which the amount is deposited with the cess collector under sub-rule (1) of rule 4, or the date of deduction at source under sub-rule (3) of rule 4, or the date on which the draft has been deposited with the local authority under sub-rule (4) of rule 4, as the case may be.

12. Penalty for non-payment.—(1) An Assessing Officer, if it appears to him that an employer has not paid the cess within the date as specified in the assessment order or has paid less cess, including the cess deducted at source or paid in advance, shall issue a notice to such employer that it shall be deemed to be in

arrears and such Assessing Officer may, after such inquiry as it deems fit, impose on such employer, a penalty not exceeding such amount of cess:

Provided that before imposing any such penalty, such employer shall be given a reasonable opportunity of being heard and if after such hearing the Assessing Officer is satisfied that the default was for any good and sufficient reason, no penalty shall be imposed on such employer.

13. **Recovery of overdue amount.**—For the purpose of recovery of sums due on account of unpaid cess, interest for overdue payment or, penalty under these rules, the assessing officer shall prepare a certificate signed by him, specifying the amount due and send it to the collector of the district concerned who shall proceed to recover from the said employer the amount specified thereunder as if it were an arrear of land revenue.
14. **Appeal.**—(1) An employer aggrieved by an order of the assessment made under rule 7 or by an order imposing penalty made under rule 12 may appeal against such order, within three months of the receipt of such order, to the Appellate Authority.
 - (2) The appeal shall be accompanied with—
 - (a) the order appealed against;
 - (b) a certificate from the cess collector to the effect that the amount of cess or penalty or both, as the case may be, relating to such appeal has been deposited;
 - (c) a fee equivalent to one per cent, of the amount in dispute or penalty or both, as the case may be, under such appeal;
 - (d) a statement of points in dispute;
 - (e) documentary evidence relied upon.
 - (3) On receipt of the appeal the Appellate Authority may call from the Assessing Officer a statement on the basis of his assessment order appealed against, as such Appellate Authority may consider necessary for the disposal of such appeal.
 - (4) The Appellate Authority shall give the appellant an opportunity of being heard in the matter and dispose of the appeal as expeditiously as possible.
 - (5) On being satisfied on the quantum of cess the Appellate Authority shall confirm the order of the Assessing Officer or if in his opinion the assessment was wrong; or on the higher side shall modify the order of assessment or if in his opinion the assessment is on the lower side or if the basis of assessment is wrong, it shall remand back the assessment order to the Assessing Officer alongwith his observations to rectify the wrong.
 - (6) An order remanded back under sub-rule (5) shall be disposed of by the Assessing Officer within one month in view of the observation made by the Appellate Authority: Provided that if the amount of cess is proposed to be enhanced the assessee shall be given an opportunity of being heard.
 - (7) No appeal shall lie against the order of the Appellate Authority under this rule.

(8) If the Appellate Authority is of the opinion that the quantum of penalty imposed is on the higher side or not correctly made it shall suitably modify or set aside the order of the Assessing Officer, as the case may be.

(9) The appeal under this rule shall be disposed of by making a speaking order and a copy of such order shall be sent to each of 'the appellant, the Assessing Officer and the Board within five days of the date on which such order is made.

(10) An order in appeal reducing the amount of cess shall also ask the Board to refund the excess cess.

(11) An order in appeal reducing, enhancing or confirming the orders of penalty, as the case may be, shall also specify the date by which the amount of penalty should be paid/refunded.

15. Filing of complaints.—(1) The Assessing Officer, or any inspector under the main Act, or a Trade Union, having come to know of violation of an obligation to furnish return, furnishing of false information, intentionally or wilfully evading or attempting to evade the payment of cess may make a complaint to the Board. The Board on receiving such complaint shall examine the complaint and if it so decide may refer such complaint to the Central Government for taking legal action against the offender. (2) The Central Government on receiving such reference may make such inquiry as may be considered necessary and authorise an inspector of appropriate jurisdiction to file a complaint in the court of law furnish return, furnishing of false information, intentionally or wilfully evading or attempting to evade the payment of cess may make a complaint to the Board. The Board on receiving such complaint shall examine the complaint and if it so decide may refer such complaint to the Central Government for taking legal action against the offender.

(2) The Central Government on receiving such reference may make such inquiry as may be considered necessary and authorise an inspector of appropriate jurisdiction to file a complaint in the court of law.

FORM I
(See rule 7)

1. Name of Establishment
Other
of
Service)

Registration No. under Building and
Construction Workers' (Regulation
Employment and Conditions of
Act 1996. Registering Authority

2. Address

3. Name of Work

4. No. of workers employed

5. Date of commencement of work

Estimated period of work:
Month Year Date Month Year

6. Estimated cost of construction
Stages Cost Amount Challan No.
and date

Details of payment of cess
Advance—A
Deduction at Source—D
Final—F

1st Year

2nd Year

3rd Year

4th Year

Total:

Signature of Employer
Name of Employer

Date

TO BE FILLED BY ASSESSING OFFICER

7. Date of completion

8. Final Cost

9. Date of assessment

10. Amount assessed

11. Date of Appeal, if any,

12. Date of order in Appeal

13. Amount as per Order in Appeal

14. Date of transfer of cess to the Board

15. Amount transferred Challan No. and date

Signature
Designation

FORM II

[See rule 9(1)]

1. Name of Establishment
Registration No. under Building and Other
Construction Workers' (Regulation of
Employment and Condi-tions of Service) Act,

1996. Address

II. Date of commencement of work
Month Year
Estimated cost of work (original)
Estimated period of work:
Date Month Year
Advance Cess/ Deduction at source
Date of Assessment order Amount of Cess assessed

III. Modification to the original
estimates Revised date of
completion/ Date of stoppage Reason
Actual cost estimates Actual cost
incurred

Whether work is being handed Yes/No.
over to any other person/agency for completion.
If yes, Name/ Address of such person/agency.

.....Signature of Employer
Name of Employer
Date

TO BE FILLED BYASSESSING OFFICER

Date of revision of assessment
Amount of cess after revision
Cess already received
Cess to be refunded, if any
Cess to be recovered
Reference to Board for refund;
Date /number
Signature
Designation

**Maharashtra fire prevention and Life Saving acts 2007 and rules:
DRAFT RULES**

- 1. Short Title and commencement –
(1) These rules may be called The Maharashtra Fire Prevention and Life Safety Measures Rules, 2008.
(2) They extend to the whole State of Maharashtra.
(3) They shall come into force –

(a) in the areas of the local authorities and the planning authorities, on such date as the State Government may, by notification in the *Official Gazette*, appoint;

(b) in other areas or part of the areas, on such date as the State Government may, by the same or like notification appoint; and different dates may be appointed for different provisions thereof and for different areas or part of the areas; and

(c) any reference in these rules to the commencement of the rules shall, in relation to a provision or an area, be constructed as a reference to the coming into force of these rules or any provision thereof in that area.

2. Definitions.- In these rules, unless the context otherwise requires, -

(a) “**Act**” means The Maharashtra Fire Prevention and Life Safety Measures Act, 2006;

(b) “**form**” means the form appended to these rules;

(c) “**regular fire service**” means a service rendered, for the administration, prevention or protection of fire, with the State Government, local authority or planning authority;

(d) “**section**” means the section of the Act;

(e) **the words and expressions** used in these rules but not defined shall have the same meaning as assigned to them in the Act.

3. **Appointment and qualifications of nominated officer.**- (1) The nominated officer to be appointed under clause (9) of section 2 of the Act shall be from amongst the fire officers mentioned in clauses (a) and (b) of sub-section (3) of section 21, in each of the respective Municipal Corporation, Municipal Council, Nagar Panchayat, Industrial Township or Planning Authority; and where the cadre of such fire officers is not yet be established, the nominated officer shall be appointed by the Director, Maharashtra Fire services from amongst fire officers or fire personnel in the Municipal Corporation, Municipal Council, Nagar Panchayat, Industrial Township or Planning Authority, possessing the following qualifications, namely :-

(a) for “ A” and “B” class Municipal Corporations, the nominated officer shall be a fire officer who, -

i) possesses an Advance Diploma in Fire Engineering from the National Fire Service College, Nagpur, Ministry of Home Affairs, Government of India or the State Fire Academy, Government of Maharashtra; and at least two years’ experience of regular fire service for inspection and testing of fire prevention and protection work ; or

(ii) has passed the Graduate ship Examination(Fire) of Institute of Fire Engineers, India or the Institution of Fire Engineers of United Kingdom and at least two years’ experience of regular fire service; and of fire prevention and protection work.

(b) for “C” and “D” class Municipal Corporations, the nominated officer shall be a fire officer who, -

(i) possesses Diploma in Fire Engineering from the aforesaid National Fire Service College, Nagpur or the State Fire Academy, Government of Maharashtra; and at least two years’ experience of regular fire service and of fire prevention and protection work ; or

(ii) has passed the Graduate ship Examination (Fire) of Institute of Fire Engineers India or the Institution of Fire Engineers of United Kingdom; and at least two years’ experience of regular fire service for inspection and testing of fire prevention and protection work.

(c) for Municipal Councils, Nagar Panchayats or Industrial Townships, the nominated officer shall be a fire officer who, - possesses a Diploma in Fire Engineering from the aforesaid National Fire Service College, Nagpur or the State Fire Academy, Government of Maharashtra; and at least two years’ experience of regular fire service ;

(d) for Special Planning Authorities and Special Economic Zones (SEZs), Private Townships and Hill Station Projects, the nominated officer shall be a fire officer who.-

(j) possesses an Advance Diploma in Fire Engineering from the National Fire Service College, Nagpur, Ministry of Home Affairs, Government of India or the State Fire

Academy, Government of Maharashtra; and at least two years' experience of regular fire service for inspection and testing of fire prevention and protection work ; or

(ii) has passed the Membership Examination of Institute of Fire Engineers India or the Institution of Fire Engineers of United Kingdom; and at least two years' experience of regular fire service and of fire prevention and protection work.

(2) In any area or areas not covered by sub-rule (1), the nominated officer shall be appointed by the Director from amongst fire officers from the office of the Director or from any adjoining local authority or planning authority, who possesses qualifications specified in clauses (a) or (b) of sub-rule (1), having regard to the potential of the fire hazard in the buildings or the project concerned.

(3) Notwithstanding anything contained in clauses (a), (b), (c) or (d) of sub rule (1), where any special, high-rise, or mega project is coming up within or without the areas covered by the said clauses of sub-rule (1), the scrutiny and the inspection of the building will be carried out by the Chief Fire Officer or qualified nominated officer, if any, from the nearby Municipal Corporation or by any Fire Officer as the Director may, by any general or special order in that behalf, specify.

(4) Notwithstanding anything contained in sub-rules (1), (2) and (3), a fire officer shall be required to have acquired a certificate of fire prevention course of the State Fire Academy, Government of Maharashtra, before his appointment as a nominated officer.

4. Certificates to be issued by Licensed Agency.- (1) A certificate regarding the compliance of the fire prevention and life safety measures in a building or a part thereof as required by or under the provisions of the Act, to be issued by a Licensed Agency, shall be in "Form – A".

(2) A certificate which is to be issued by a Licensed Agency twice a year in the months of January and July regarding the maintenance of fire prevention and life safety measures in a building or premises being in good repair and efficient condition as specified in sub-section (1) of section 3 of the Act, shall be in "Form-B"

5. Notice directing the removal of objects or goods likely to cause the risk of fire.- (1) The notice to be given under sub-section (2) of section 4 to the owner or occupier of a building or premises, directing the removal of objects or goods likely to cause the risk of fire, to a place of safety shall be in "Form C".

(2) On failure of the owner or occupier to comply with the notice issued under sub-rule (1), he shall be given a further notice under sub-section (2) of section 4 to submit his say as to why the objects or goods should not be seized, detained or removed. Such notice shall be in the "Form-D".

6. Memorandum of seizure, etc. and *panchanama*.- Where any objects or goods involving risk of fire are required to be seized, detained or removed under subsection (2) of section 4, the memorandum of seizure etc. to be prepared in that behalf shall be in the "Form E" ; and the *panchanama* to be made in that behalf shall be in the "Form-F"

7. Notice to be given for entry and inspection. - (1) The notice for entering and inspection required to be given under sub-section (1) of section 5 for ascertaining the adequacy or contravention of fire prevention and life safety measures in any place or building or part thereof, shall be in "Form-G".

(2) The notice required to be given under sub-section (4) of section 5 to a woman, who, according to the custom does not appear in public, shall be in the "Form-H".

8. Report of inspection by nominated officer: - Where the inspection is carried out by the nominated officer under section 5, he shall give the report of such inspection in the "Form-I"

9. Notice to be given to the owner or occupier of a building or part thereof to undertake certain measures.- (1) Where on completion of the inspection of the place or building or part thereof, any deviation from, or contravention of, the requirements with regard to the fire

prevention and life safety measures or any inadequacy or non-compliance of such measures provided or to be provided therein with reference to the height of the building or the nature of the activities carried on in such place or building or part thereof, is noticed, the owner or occupier of such place or building or part thereof shall be given a notice thereof under section 6 of the Act in "Form J", directing him to undertake the requisite measures within 7 days.

(2) The time to be specified in the notice given to the owner or the occupier under sub-rule (1) shall be specified having regard to the nature of the measures to be taken but such time shall not exceed 120 days.

10. Procedure to be followed for sealing of a place or building or part thereof.- The Director or Chief Fire Officer shall follow the following procedure in respect of the sealing of any place or building or part thereof, required to be sealed under sub-section (3) of section 8, namely:-

(a) he shall require persons, in possession or occupation of the place or building or part thereof to be sealed, to remove themselves from there forthwith;

(b) in case of non-compliance of the said order, he shall direct any police officer having jurisdiction in the area to remove such persons from such place or building or part thereof;

(c) after the removal of persons in possession or in occupation from such place or building or part thereof, he shall cause such place or building or part thereof to be sealed by such police officer forthwith in the manner which he deems fit;

(d) the seal used to seal as aforesaid shall remain in the custody of the Director or, as the case may be, the Chief Fire Officer;

(e) (i) if the place or building or part thereof required to be sealed on receipt of the report of the nominated officer, is found to be locked or inaccessible, he may cause the lock to be broken by the police officer and enter the premises and after taking all necessary steps required to be

taken under the Act, or under these rules, relock and cause it to be sealed as afore said;

(ii) where a place or building or part thereof is sealed under sub clause (i), an inventory of the material found in such place or building or part thereof shall be prepared in the presence of two independent witnesses and a copy thereof shall be delivered to the owner or occupier, if present at the site. The forms "E" and "F" shall, respectively, be used *mutatis mutandis* for such inventory and the *panchanama* to be prepared in that regard.

(f) The Director or, the Chief Fire Officer or as the case may be an Officer nominated shall report in writing to the Police Station concerned if the seal so fixed on any place or building or part thereof is found to be broken or tampered.

11. Orders to Authorities responsible for supply of electricity or water to disconnect supply or to a Police Officer to remove persons from, a place or building or part thereof which is in imminent danger.- (1) An order under clause

(a) of sub-section (2) of section 8, directing the authority responsible for supply of electricity, or as the case may be, water, to a place or building or a part thereof, which is dangerous to any person or property, to disconnect the supply of electricity, or as the case may be, water, shall be in "Form - K".

(2) An order under clause (b) of sub-section (2) of section 8, directing any Police Officer having jurisdiction in the area, to remove persons from any place or building or part thereof which is dangerous to any person or property shall be in "Form-L".

12. Eligibility to act as Licensed Agency.- No person shall be eligible to apply for grant of licence to act as a Licensed Agency ; and shall be granted a license to act as Licensed Agency, unless he .-

(1) (a) possesses - (i) at least any of the qualifications mentioned in clause (b) of sub-rule (1) of this rule; or (ii) a degree or diploma in Mechanical, Electrical, Electronics or

Civil Engineering or Computer applications; and (iii) experience in executing fire prevention and fire protection system as laid down in National Building Code 2005 or code published by National Fire Protection Association (NFPA, USA) 2008, as amended from time to time, or

(b) has in his employment, for the purpose of execution and supervision of the work relating to fire protection and life safety measures in a building or a project, an officer or supervisory officer holding any of the qualifications mentioned in clause (a), so however that, a degree or diploma in fire engineering or any other qualifications in relation to fire protection, prevention and safety measures shall be an essential qualification.

(2) holds a solvency certificate for an amount as may be specified by the Director, with prior approval of the Government.

(3) has, during the period of 3 years immediately preceding the year of making the application, executed the work in relation to fire prevention and fire protection system; or holds a certificate of fire protection specialist awarded by the State Fire Academy, Government of Maharashtra.

(4) has adequate machinery, tools and other requisite equipment in relation to fire prevention and fire protection systems ; and

(5) has not been black- listed by any Government Department or Organization or any other state.

13. Application to be made for Licensed Agency, manner of making it and fees in respect thereof.- (1) Every application for licence to act as Licensed Agency for the purposes of the Act under section 9 shall be in "Form-M".

(2) Such application may be presented in person or sent by registered post or through courier agency or online.

(3) Every such application shall be accompanied by.-

(a) **the following fees :-**

Class of local or planning authority	Minimum solvency certificate for (rupees in lakh)	Prescribed limit for execution of the works as per estimated cost (rupees in lakh)	Cost of annual works minimum executed in the last three years rupees in lakh			Registration free in rupees
			Fire fighting system installation such as hydrant sprinklers pumping etc.	Detection & fire separation system	Passive protection such as cable protection, fire doors etc.	
1	2	3	4	5	6	7
A	150.00	Unlimited	500.00	200.00	200.00	25000

B	10.0 0	1000. 00	300.0 0	100.0 0	100.0 0	15000
C	05.0 0	600.0 0	200.0 0	50.00	50.00	5000
D	02.5 0	300.0 0	100.0 0	25.00	25.00	2500

(b) documents as may be specified by the Director; and which shall include the following, namely:-

- (1) solvency certificate for an appropriate amount as specified under sub-rule (2) of rule 12.
 - (2) attested copy of deed of partnership and power of attorney or articles of memorandum of association or affidavit on stamp paper in case the individual is the sole proprietor of the firm;
 - (3) last three years' certificates from the concerned department regarding satisfactory completion of works;
 - (4) orders of works in hand in current year (up to the prescribed amount for that class);
 - (5) certificate from the chartered accountant or registered income tax practitioner in the prescribed form in case of private works;
 - (6) if the application for registration is made for the first time for a specific class, one has to execute at least one work up to the maximum amount in the class, which falls one class below the specific class, applied for;
 - (7) certificate regarding appointment of at least one officer possessing any of the qualifications specified in clause (b) of sub-rule (1) of rule 12;
 - (8) attested passport size photographs of partners or directors or individual proprietor and also of the officer or officers referred to in item (8);
 - (9) attested copy of VAT registration certificate;
 - (10) affidavit on appropriate stamp paper, stating that his or her firm is not black listed in the Government or any semi Government organization; and
 - (11) list of technical staff with their qualifications.
14. Licence to act as Licensed Agency.- The Licence to act as a Licensed Agency shall be granted in "Form-N" and shall be subject to the following conditions, namely :-

1. The licence shall be (a) non transferable (b) valid for one year from the date of issue, unless suspended or cancelled earlier,

(c) renewable, if so desired, before expiry of the licence; 2. Changes, if any, in respect of the :-

(a) Partners, Directors or Members, (b) address of the office of the licensed Agency shall be forthwith reported to the Authority issuing the licence.

3. The Licensed Agency shall always keep the work, being executed, or executed by it, open for inspection by the Director, Chief Fire Officer or any fire officer authorized by the Director or Chief Fire Officer.

15. Renewal of Licence.- An application for renewal of a licence granted under section 9, read with rule 14, shall also be made in "Form-M" and shall be accompanied by a fee specified under clause (a) of sub rule (3) of rule 13 and also documents as mentioned in clause (b) of sub-rule (3) of rule 13.

16. Additions to Licence held by Licensed Agency.- (1) Any person holding a licence to act as a Licensed Agency for any class or description as granted or renewed under section 9, read with rule 14, and who is also eligible to act as a Licensed Agency for any other class or

description, may apply in "Form M" for the addition of such other class or description to the licence.

(2) The provisions of rule 13 shall apply to an application made under subrule (1) as if the said application were for grant of a licence under section 9, read with rule 14, for the class or description which the applicant desires to be added to his licence.

17. Notice to show cause why licence be not suspended or cancelled.- Where any person to whom the Licence has been granted contravenes any provisions of the Act or of the rules or fails to comply with the conditions of the licence or is unfit by reason of incompetency, misconduct or any other grave reason, a notice to show cause as to why the licence granted to him to act as

Licensed Agency should not be suspended or cancelled, to be given to such person, shall be in "Form-O".

18. Application for assessment of fire service fees.- (1) An Application under sub-section (1) of section 14 for assessment of fire service fees payable by a person, who intends to construct a building or who has commenced construction of a building in the manner provided in the sub-section (1), shall make an application to the authority in "Form P".

(2) Such application shall be made at the time of making an application to the Authority for permission to construct a building and in any case, before the Authority grants such permission; and a person who has commenced construction of a building without making an application for such permission of the Authority, shall make an application for assessment of fees payable in

respect of such building within 30 days from the date of commencement of the Act.

(3) Such application may be presented in person or sent by registered post or through courier agency or online.

19. **Notice of hearing.**- The authority shall give a notice in "Form-Q" to the person, who has made an application under sub-section (1) of section 14 or a person who has constructed a building without permission, in respect of assessment of fire service fees livable in case of a building intended to be constructed by the applicant or the construction made without permission; and having regard to the matters to be considered as specified in sub-section (2) of section 14 and also to the following guidelines, assess the fees, so livable and payable by such person :-

Guidelines.-

1. In the case of - (1) Residential Buildings: (a) Lodging or Rooming Houses, (b) One or Two family private dwellings, dormitory, apartment houses, (c) Hotels, (d) starred Hotels.

(2) Educational Buildings: (3) Institutional Buildings: (a) Hospitals, Sanatoriums, Nursing Homes (b) Custodial, penal and plantal (4) Assembly Buildings: (5) Business Buildings:

(6) Mercantile Buildings: (a) F-1 and F-2 buildings, (b) Underground Shopping Complexes – (i) If the building consists of different wings or has an annex, being contiguous and forming part of the building, the total area of the main building, wings thereof and annex shall together be calculated as that of one building.

(ii) If any additions are made to the existing buildings, the entire area of the building shall be calculated and the fire service fee leviable and payable in respect thereof shall be for the entire such area less the fire service fee, if any, paid earlier.

(iii) If the interior of a building is changed by internal alterations including construction of loft or mezzanine floor which are carried out there in, without any addition in the gross built-up, then fire service fee shall be levied thereon.

2. In the case of – (1) Industrial Buildings (a) – Low Hazard, (b) Moderate Hazard , (c) High Hazard (2) Storage Buildings: (3) Hazardous Buildings;

(i) Where a building is having mixed occupancy, fire service fee shall be levied having regard to the nature of each of the occupancies;

(ii) If a building is compartmentalized, then the compartment which is newly built or if any additions or alterations are made to an existing compartment, the fire service fee shall be levied on such new or added compartment, irrespective of the fact that such compartment is contiguous

or forming a part of the same building;

(iii) If the interior of a building is changed by internal alterations including construction of loft or mezzanine floor which are carried out therein, without any addition in the gross built-up area, then fire service fee shall be levied thereon.

20. Notice of assessment of fire service fee and collection thereof.- (1) After the assessment of fees made under rule 19, a notice in "Form R" of such assessment shall be served upon the applicant or the person concerned.

(2) **The provisions of rule 19 and sub-rule (1)** of this rule shall apply mutatis mutandis to assessment of fire service fees in respect of a building, the construction of which has been completed on or after the date of coming into force of the Act.

(3) Save as otherwise provided in the Act or under these rules, the procedure followed by the authority in respect of collection of the taxes or fees levied by it under any relevant law or instrument applicable to it, shall apply also to collection of fire service fees assessed under these rules.

21. **The Director of Fire Services appointed under section 18.**- Without prejudice to the rules, if any, regulating recruitment to the post of Director, Maharashtra Fire Services, Group-A for the time being in force, the Director of Fire Services to be appointed under section 18 shall always be a person possessing academic qualifications and practical experiences in fire services.

22. **Duties and responsibilities of fire officers and staff.**- (1) Subject to the provisions of sub-rule (2), the duties and responsibilities of fire officers and staff shall be as specified in the Fire Service Manual.

(2) The Director, with the approval of the Government, may, by general or special order, add to, or delete from, or modify the duties and responsibilities of the fire officers or fire staff; and there upon the Fire Service Manual shall stand amended accordingly.

23. Order of requisition of firefighting equipment.- Order of requisition of firefighting equipment or property of any Authority or any institutions or individual to be issued under sub-section (1) of section 26 shall be in "Form-S".

24. Report on damage caused to premises during fire fighting operations and assessment and payment of compensation.- (1) The Director or the Chief Fire Officer or any other fire officer who is in-charge of fire fighting operations on the spot, shall make a report in "Form-T" to the respective Local Authority or as the case may be, the planning Authority, on the damage, if any, caused to premises by fire officers or fire personnel during fire fighting and rescue operations as referred to in sub-section (2) of section 27. (2) On receipt of report under sub-rule (1), the damage caused to any premises or any other property shall be assessed by an officer of the respective Local Authority or case may be planning Authority, as the Authority may nominate in that behalf and such nominated officer shall, after giving an opportunity of being heard to the owner or occupier concerned, assess the damage and submit his recommendations in that behalf to the authority for its consideration.

(3) Having regard to the recommendation made by such fire officer nominated by the Director or the Chief Fire Officer, as the case may be, and where the building or property to which such damage is caused is insured, the Insurance Company shall while determining and granting compensation to be paid to the owner or occupier take into account the damage caused to the premises or any other property by the fire officers or fire personnel during the conduct of fire fighting and rescue operations.

25. Report of accident to fire officer or fire personnel during fire; and payment of compensation.- The fire officer in-charge of fire or natural calamity operations, shall submit a report of any accident occurring during such operation to the Director and also to the Chief Fire Officer; and the compensation payable to any fire officer, or fire personnel in the case of such accident, or to their dependents in the case of death or permanent disability, shall be such as the Director may, with the approval of the State Government, by any general or special order, determine.

26. Disciplinary or other action against fire officer or fire personnel.- Every fire officer or fire personnel who violates his duty or commits willful breach of any provisions of the Act or the rules or any order made by his superior officer, or exhibits or indulges in any cowardice or withdraws from duties of his office without permission or being absent on leave, fails without reasonable cause to report himself for duty on the expiry of such leave, or engages, without authority, in any employment other than his duty, shall be liable to be proceeded against for breach of discipline, and shall be liable for such disciplinary action, including action for breach of this rule.

27. Employment of fire officer or fire personnel for purposes other than fire fighting within or outside the sphere of their duties.- The fire officers or fire personnel may be engaged for the purposes other than fire fighting at the discretion of the Director or the Chief Fire Officer or any subordinate officer authorized by the Director or the Chief Fire Officer, in the case of all calls relating to natural calamities and rescue of life;

28. Rates for supply of water required on the occasion of fire fighting operations.- Where the officer in-charge of the fire fighting operations draws water, from any source in the area, which he considers necessary for such operations, the authority or owner or occupier having control over such water source shall be paid for the water so utilized,-

(a) if water is drawn from an authority, then at the lowest rate of supply of water which is usually charged from the users of water in such area by such authority;

(b) if water is drawn from any owner or occupier, then at the rate which shall not exceed the lowest rate referred to in clause (a), and where such rate is not available, then at such rate as may be determined by negotiation, subject, however, to the condition that where any dispute arises as to such rate, in the case of an authority, the decision of the Chief Executive Officer of the Authority concerned, and in the case of an owner or occupier, the decision of the Director, shall be final.

29. Terms for securing personnel or equipment or both for firefighting purposes.- The terms on which the Director or the Chief Fire Officer or any other fire officer authorized by any Authority may secure, by agreement, firefighting equipment or personnel from any person who employs and maintains personnel or equipment or both, for firefighting purposes, shall be as follows:-

(1) As soon as may be, after the fire fighting operation is over, the Director or Chief Fire Officer or Fire Officer in charge of the fire fighting operation, as the case may be, shall release the personnel or equipment so secured and restore the same to the person (including the local authority, firm and institution or individual) from whose possession such personnel or equipment was secured.

(2) There shall be paid to the employer of such personnel or owner of such equipment, compensation, the amount which is determined in accordance with the principles hereinafter set out, that is to say _ (a) where the amount of compensation is determined under the agreement, it shall be paid in accordance with such agreement;

(b) where such compensation is not settled in the agreement or where no such agreement with regard to compensation can be reached, the matter shall be referred to the State Government and the decision of the State Government in that regard shall be final.

(c) if any injury is caused to any personnel or any damage is caused to any equipment and the employee or the owner of the equipment, as the case may be, demands any compensation

separately in respect thereof, and no agreement can be reached , the matter shall likewise be referred to the State Government for determination and the decision of the State Government in that regard shall be final.

30. Appeal under section 32.- (1) Any aggrieved person may prefer an appeal in “Form-U” within 30 days from the date of receipt of notice or order or communication of refusal, as the case may be, as mentioned in clauses (a), (b) or (c) of sub-section (1) of section 32.

(2) Such appeal shall bear a court-fee stamp of Rs.10 and shall be accompanied by a fee of Rs.500 to be paid in the office of the respective Local Authority or case may be planning Authority and a receipt in respect thereof shall be appended to the form of appeal.

(3) Such appeal may be presented in person or may be sent by registered post or through courier agency.

(4) On receipt of such an appeal, the nominated officer shall, as far as may be practicable, issue a notice of hearing to the appellant and the respective Local Authority or the planning Authority as the case may be, within 15 days from the date of receipt of such appeal and shall finally dispose of the appeal within 30 days after the date of hearing.

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FORM – A
{(see section 3 (3) and rule 4 (1))}

Certificate by the Licensed Agency regarding the compliance of the
Fire Prevention and Life Safety Measures.

C E R T I F I C A T E

Certified that I / We have executed the works towards compliance in relation to Fire Prevention and Life Safety Measures to be provided, and performed other related activities required to be carried out, in the following building or premises as required under the provisions of the Maharashtra Fire Prevention and Life Safety Measures Act,2006 (Mah.III of 2007).

Description of building or premises.

.....
.....
.....
.....

The details of the work and related activities which I or we have executed or performed are mentioned in the list appended herewith.

Place :

Date :

Signature and address of the
Licensed Agency.

Licence No.....

FORM – B

{(see section 3 (3) and rule 4 (2)}

Six monthly certificate to be given in every January and July by the owner or the occupier for compliance of the Fire Prevention and Life Safety Measures

C E R T I F I C A T E

Certified that I / We have carried out inspection of the Fire Prevention and Life Safety Measures installed in the following building or premises, namely :-

.....
.....

I / We further certify that these installations in the above mentioned buildings are maintained in good repair and efficient conditions during the period -----, as required under the provisions of the Maharashtra Fire Prevention and Life Safety Measures Act, 2006 (Mah-III of 2007). The details of the inspection of installations carried out by me / us are mentioned in the report appended herewith.

Place :

Date :

Signature and address of the
Licensed Agency.
Licence No.....

FORM – C

{(see section 4 (2) and rule 5 (1))}

Notice for removal of objects or goods likely to cause the risk of fire.

To,
Shri / M/s _____

WHEREAS Government has, by notification, _____
Department, Notification No. _____ dated _____,
published in the Maharashtra Govt. Gazette, Part _____ dated _____,
required that the owners or occupiers of premises or any class of premises used
in the following area, which in its opinion, are likely to cause risk of fire, take such
precautions as have been specified in the said notifications and as are
reproduced herebelow-

.....
.....
.....

AND WHEREAS you are the owner or occupier of the following premises,
which fall in the area mentioned in the said Government notification -

.....
.....

AND WHEREAS on inspection of the aforesaid premises, it is noticed
that the objects or goods mentioned in the list appended herewith are such as
are likely to cause risk of fire and are required to be removed to a place of safety;
NOW, THEREFORE, in exercise of the powers conferred on me under subsection
(2) of section 4 of the Maharashtra Fire Prevention and Life Safety
22

Measures Act, 2006 (Mah.III of 2007), I, _____
hereby give you notice that you shall forthwith remove the said objects or goods
to a place of safety and submit the report in respect of your having done so to the
undersigned within days.

Place:

Signature and
Designation of the Officer.

Date:

FORM – D

{(see section 4 (2) and rule 5 (2)}

Notice to make representation on failure of the owner or occupier to comply with the notice issued under sub-rule (1) of rule 5.

To,

.....

.....

WHEREAS, by notice No. _____ dated _____ issued to you by _____ and received by you on _____, you were required to remove forthwith the objects or goods specified in the list appended to the said notice, to a place of safety and to submit a report in respect of you having done so to the undersigned.

AND WHEREAS it is found that you have not complied with the said notice and have not removed forthwith the said objects or goods to a place of safety and they are still lying where they were which is likely to cause the risk of fire;

NOW, THEREFORE, in exercise of the powers conferred by sub-section (2) of section 4 of the Maharashtra Fire Prevention and Life Safety Measures act, 2006 (Mah.III of 2007), I, _____ hereby call upon you to submit your say, if any, addressed to the undersigned so as to reach by or before 5.00 p.m. on _____, as to why the said objects or goods should not be seized or detained or removed by taking assistance of a Police Officer.

Place:

Signature and
Designation of the
Officer.

Date:

CHAPTER - 3

Environment Protection Legislations

LAWS ON ENVIRONMENTAL PROTECTION:

Water (Prevention and Control of Pollution) Act 1974 :

This Act (No. 6 of 1974) was enacted by the Parliament on 23-3-1974. It is applicable to the States from their dates of their adoption. It was amended in 1978 and 1988.

It has 8 chapters and 64 sections. It applies to certain States and the States who adopt it.

The Act intends to provide for the prevention and control of water pollution, maintaining or restoring of wholesomeness of water. Boards, its powers and functions for matters connected therewith.

Chapter-1 gives following definitions :

Board means the Central or a State Board.

Outlet includes any conduit pipe or channel, open or closed, carrying sewage or trade effluent or any other holding arrangement which causes or is likely to cause pollution.

Pollution means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (directly or indirectly) as may be likely to create a nuisance or render such water harmful or injurious to public health or safety or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

Central Board, State Board, Sewage effluent and Trade effluent are also defined and distinguished.

Stream includes river, water course, inland water, sub-terranean waters and sea or tidal waters to the extent notified.

Sewer means any conduit pipe or channel, open or closed, carrying sewage or trade effluent.

Subjects of other chapters are as under :

Chapter I : Preliminary (S. 1,2)

Chapter II : Central & State Boards (S.3 to 12) Chapter III : Joint Board (S. 13 to 15).

Chapter IV : Powers & Functions of Boards (S. 16 to 18).

Chapter V : Prevention and Control of water Pollution (S. 19 to 33A)

Chapter VI : Funds, Accounts & Audit (S. 34 to 40) Chapter VII : Penalties & Procedure (S. 41 to 50)

Chapter VIII : Miscellaneous including rule making powers of the Central and State Govt. (S. 51 to 64).

Functions of the State Board given u/s 17 are more important.

Some provision of Chapter-V are explained below -

A State Board can require from any industry, operation, process, treatment and disposal system to furnish information regarding construction, installation or operation of such establishment (S.20), can take samples of effluents in a manner prescribed for analysis at the occupier's cost (S.21), shall send a copy of the report of analysis to the occupier (S.22), has power of entry and inspection of plant, record, register, document, material etc. (S. 23) and of prohibiting use of stream or well or sewer or on land for disposal of polluting matter by prescribing standards and no person shall make water pollution (R. 24) or make any new outlets or new discharges without previous consent of the State Board, which will make inquiry and grant consent with conditions imposed (which shall be binding to the applicant) or refuse it with reasons recorded in writing. If the consent is not given or refused within 4 months, it should be deemed to have been granted unconditionally (R. 25 & 26).

An aggrieved person has right to appeal u/s 28. Revision is possible u/s 29.

Any accident, act or event causing water pollution should be forthwith intimated to the State Board (S. 31). The State Board can take steps to remove pollution or such discharges (S. 32) or apply to courts for restraining apprehended water pollution and the court can order the person to remove that pollution or authorize the Board to do it at the cost of that person (S. 33). The State Board has power to give directions to any person, officer or authority for closure, prohibition or regulation of any industry, operation or process or the stoppage or regulation of supply of electricity, water or any other service (S. 33A).

Annual report (financial year wise) to be submitted by SPCV to state Govt. and by CPCB to Central Govt. (S. 39)

Water (Prevention and Control of Pollution) Rules 1975 :

The Central Government u/s 63 of the Water Act made these rules effective from 27-2-1975. They were amended in 1976, 1978, 1986, 1987 and 1989.

They have II chapters, 35 rules, 4 schedules and 15 forms under schedule 1. Their subject matter is as under.

Chap-1: Preliminary (R.1.2)

Chap-2: Service conditions of Members (R. 3 to 6)

Chap-3: Power & Duties of the Chairman and Member Secretary and appointments of officer and employees (R. 7 to 9)

Chap-4: Temporary association of persons with Central Board (R. 10)

Chap-5: Consulting Engineer (R. 11 to 16).

Chap-6: Budget of the Central Board (R. 17 to 23)

Chap-7: Annual Report of the Central Board (R. 24)

Chap-8: Account of the Central Board (R. 25)

Chap-9: Analyst of the Central Board (R. 26, 26A)

Chap-10 : Central water laboratory (R. 27, 28)

Chap-11 : Powers & functions of the Central Board in relation to Union territories (R. 29 to 35).

In addition to above mentioned Central Rules, State Rules are also available as under.

Gujarat Water (Prevention and Control of Pollution) Rules, 1976 :

They were notified and came into force from 26-8-1976. They have 25 Rules and Forms A to H-V.

State water laboratory means that established u/s 52 of the Act. Other provisions are pertaining to fees and allowances to members, quorum, order of business, minutes, appointment of consulting engineers, powers and duties of the chairman and those of member secretary, application for consent and its investigation, budget, annual report and statement of accounts etc.

Air (Prevention and Control of Pollution) Act, 1981:

This Act (No.14 of 1981) was enacted on 29-3-1981. It came into force from 16-5-1981. It extends to the whole of India. It has 7 chapters and 54 sections. It was amended in 1987.

Chapter-1 gives following definitions (S 1 and 2):

- A. **Air pollutant** means any solid, liquid or gaseous substance including noise present in the atmosphere in such concentration as to be injurious to human beings, other living creatures, plants, property or environment
- B. **Air pollution** means the presence of any air pollutant in the atmosphere.
- C. **Approved appliances** means any equipment or gadget used for bringing of any combustible material or for generating or consuming any fume, gas or particulate matter and approved by the State Board for the purpose of this Act. Chimney includes any structure with an opening or outlet from or through which any air pollutant may be emitted.
- D. **Control equipment** means any apparatus, device, equipment or system to control the quality and manner of emission of any air pollutant and includes any device used for securing the efficient operation of any industrial plant.
- E. **Emission** means any solid, liquid or gaseous substance coming out of any chimney, duct or flue or any other outlet.
- F. **Industrial plant** means any plant used for any industrial or trade purposes and emitting any air pollutant into the atmosphere.

The words 'approved fuel' and 'automobile' are also defined. Other chapters are as under:

Chapter - II:	Central & State Board (S.3 to 15)
Chapter - III:	Powers & functions of Boards (S.16 to 18)
Chapter - IV:	Prevention & Control of Air pollution (S.19 to 31A)
Chapter - V:	Funds, Accounts & Audit (S.32 to 36).
Chapter - VI:	Penalties & procedure (S 37 to 46)
Chapter - VII:	Miscellaneous including rule making powers of the Central and State Govt. (S. 47 to 54).

Functions of the central and State Pollution Control, Boards are given in Chapter III.

Some provisions of Chapter-IV are as under:

The State Government may after consultation with the State Pollution Control Board, notify any area as air pollution control area for the purposes of this Act, prohibit the use of any polluting fuel in any area, require use of an approved appliance, prohibit burning of any polluting material in any area (S.19) and instruct the motor vehicles authority to ensure compliance of the standards of automobiles emission laid down by the State Board (S.20).

No industrial plant shall be established or operated without the previous consent of the State Board. An application for consent should be in a prescribed form. The State Board can grant or refuse within 4 months, or cancel any existing consent or refuse further consent after expiry if the conditions are not fulfilled.

Every person getting consent has to comply with the following conditions:

1. The control equipment approved by the State Board should be installed and operated.
2. The existing control equipment shall be altered or replaced as per the directions of the State Board.
3. The control equipment should be maintained at all times in good running condition.
4. Chimney, approved by the State Board shall be erected or re-erected.
5. Such other conditions as the State Board may specify.
6. The conditions should be fulfilled within a stipulated time.

Due to any technological improvement or otherwise the State Board can vary its conditions. If the consent is transferred to another person, the transferee will be responsible for compliance (S. 21).

Standards laid down by the State Board shall not be exceeded (S.22). The Board has power to approach the court for restraining persons from causing air pollution. The court can direct that person to stop pollution or authorize the Board to implement the direction at the cost of that person (S.22A).

An accident, unforeseen act or event of emission beyond the prescribed standard shall be forthwith intimated to the State Board and to the prescribed authorities, who shall take, as early as practicable, remedial measures to mitigate that emission at the cost of the person concerned (S.23).

Board officers have power of entry and inspection to check conditions, control equipment, industrial plant, record, register, document, material etc. (S.24) and can call for any information regarding types and level of emission and any compliance necessary (S.25), can take samples of air or emission in the manner prescribed and can send the sample to the laboratory for analysis (S.26). The Board analyst shall submit the report of analysis in triplicate to the Board, of which one copy will be sent to the occupier by the Board (S.27).

The State Government can establish one or more State Air Laboratories (S.28) and can appoint analysts (Govt. analysts). The Board can also appoint analysts (Board analysts) (S.29) whose report can be used as evidence in any proceeding under this Act (S.30). An aggrieved person can appeal within 30 days to the prescribed authority (S.31).

Central or State Board has power to give directions to any person, officer or authority who shall comply with such directions. Such power includes the power to direct closure, prohibition or regulation of any industry, operation or process or the stoppage or regulation of supply of electricity, water or any other service (S. 31A).

Air (Prevention and Control of Pollution) Rules, 1982:

The Central Government u/s 53 of the Air Act made these rules effective from 18-11-1982. They have 7 chapters, 17 rules, 3 schedules and 9 forms.

The subject matter is as under:

- | | |
|---------------|---|
| Chapter - I | Preliminary (R.1,2) |
| Chapter - II | Procedure for the Board and its committees (R.3 to II). |
| Chapter - III | Allowances to a committee member to attend the meeting (R.12). |
| Chapter - IV | Temporary association of persons with the Central Board (R.13, 14). |
| Chapter - V | Budget of the Central Board (R.15). |
| Chapter- VI | Annual Report of the Central Board (R.16). |

Chapter - VII Account of the Central Board (R.17).

In addition to above mentioned Central Rules, State Rules are also available as under.
Gujarat Air (Prevention and Control of Pollution) Rules, 1983.

They were notified and came into force from 11-11-1983. They have 25 Rules, 2 Schedules and Forms I to II.

Rule 2 gives 12 definitions.

A. **Furnace** means any structure or installation where any form or type of fuel is burnt or otherwise a high temperature higher than ambient is maintained.

B. **State Laboratory** means that established u/s 17 of the Act.

Other provisions include terms, conditions and functions of the State Board, appointment, fees and tours of consultant, air pollution control area, application for consent and its inquiry, manner of taking samples of air, functions of state air laboratory, qualifications for Govt. analyst and board analyst, appeals, budget, annual report and statement of accounts etc.

Environment (Protection) Act, 1986:

This Act (29 of 1986) was enacted on 23-5-1986. It came into force, from 19-11-1986 in the whole of India. It has 4 chapters and 26 sections.

The Statement of Objects and Reasons of the Act identifies the need for a general legislation on environmental protection to enable co-ordination of activities of the various regulatory agencies, creation of an authority which will assume a lead role for studying, planning and implementing long-term requirements of environmental safety and give direction to and co-ordinate a system of speedy and adequate response to emergency situations threatening the environment.

Its preamble states that it is an Act to provide for the protection and improvement of environment and for matters connected therewith

Chapter -I : Preliminary (S.I, 2) :

Some definitions are as under:

Environment includes water-air and land and the inter-relationship which exists among and between , air and land and human beings, other living creatures, plants, micro-organism and property [S.2(a)].

Environmental pollutant means any solid, liquid or gaseous substance present in such concentration as to be injurious to environment, [S.2(b)].

Environmental pollution means the presence of any environmental pollutant in the environment, [S.2(c)]

Handling in relation to any substance, means the manufacture, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale, transfer or the like of such substance [S.2 (d)].

Hazardous Substance means any substance or preparation which by reason of its chemical or physiochemical properties or handling is liable to cause harm to human beings, other living creatures, plant, microorganism, property or the environment. [S.2(e)].

Chapter - II: General Powers of the Central Government (S. 3 to 6):

The Central Govt. has power to take all necessary measures to protect and improve the quality of environment and to prevent, control and abate environmental pollution, co-ordinate action by the State Govt. officers and other authorities and has power of planning and execution of a Nationwide programme, laying down standards for the quality of environment, standards for emission of pollutants, procedures and safeguards for the prevention of accidents which may cause environmental pollution and for the handling of hazardous substances, examination of processes, materials and substances and empowering officers for that, carrying out research and investigation, establishing environmental laboratories, collection and dissemination of information, preparation of manuals, codes or guides for prevention, control and abatement of environment pollution and constituting authorities to carry out these functions (S.3).

The Central Govt. can appoint officers for above purposes (S.4), can give directions to any person, officer or authority including direction of closure, prohibition or regulation of any industry, operation or process or stoppage or regulation of supply of electricity, water or any other service (S.5). It has power to make rules (S.6, 25, 26) and power to delegate its powers and functions (S.23).

Chapter-III: Prevention, Control and Abatement of Pollution (S. 7 to 17): Environmental pollutants in excess of standard prescribed shall not be discharged (S. 7). While handling hazardous substance prescribed procedure and safeguards shall be followed (S. 8). Excess discharge shall be forthwith reported to the authorities and steps shall be taken to prevent or mitigate such accidental pollution. The authorities shall also take similar steps at the cost of the person concerned (S. 9).

Persons empowered by the Central Government have powers of entry and inspection, examination and testing of any equipment, industrial plant, record, register, document, material etc. (S. 10), to take samples of air, water, soil or other substance from any factory, premises or other place in a manner prescribed and to send them to the laboratory for analysis (S.11), to establish environmental laboratories (S.12). Sec. 14 is regarding Central Analysts (S. 13) whose report can be produced as evidence in proceeding under this Act, (S. 14).

Provisions are made for penalty (S. 15) and offences by companies (S. 16) and Government Departments (S. 17).

Chapter - IV: Miscellaneous (S. 18 to 26): Provisions are made for protection of action in good faith (S.18). Cognizance of offences by the authority as well as any person who has given notice of at least 60 days of the alleged offence and his intention to complain, to the authority concerned (S.19). Information, reports or returns (S.20) and no civil court has any jurisdiction in respect of anything done by the authority or the Central Government (S.22). This Act has overriding effect notwithstanding anything inconsistent with any other Act but if any offence is punishable under this Act and also under any other Act, then the offender shall be punished under the other Act and not under this Act (S.24).

Environment (Protection) Rules, 1986 :

The Central Government u/s 6 & 25 of the Environment (protection) Act made these rules effective from 19-11-1986. They were amended in 1987, 1988, 1989, 1991, 1992, 1993 and from 1996 to 2006 every year.

They have 14 rules, 7 schedules, (No.2 omitted) 4 Annexure under schedule IV, 5 Forms under Annexure A and different Notifications dating from 212-1991 and onwards specifying guidelines, area categories, requiring environmental clearance from the listed projects (schedule) and forming the expert committees for environmental impact assessment.

An abstract of provisions is as under:

- A. Areas** means all areas where the hazardous substances are handled.
- B. Recipient system** means the part of the environment such as soil, water, air or other which receives the pollutants.
- C. Central Board** means the Central Pollution Control Board u/s 3 of the Water Act and State Board means a State Pollution Control Board u/s 4 of the Water Act or u/s 5 of the Air Act,
- D. Standards** : The standards for emission or discharge of environmental pollutants are specified in schedule I to IV. The Central or State Board may specify more stringent standards. These standards shall be complied with by an industry, operation or process within a period of one year of being so specified. The board can reduce this period. Industries, operations or processes not mentioned in Sch. I shall not exceed the general standards specified in Sch. VI. No emission or discharge shall exceed the relevant concentration set out in column (3) to (5) of Sch. VI of National Ambient Air Quality Standards (NAAQS) (R. 3).

See Parts (Tables) 10 to 14 of Chapter-32.

Others: All directions u/s 5 should be in writing and specify action to be taken and its time of compliance. Procedure is prescribed (R.4). Factors to be considered while 'prohibiting or restricting the location of industries are given in R.5. Procedure for taking samples (R.6), Notice in Form I to take sample (R.7), Procedure for submission of samples along with Form n and form of laboratory report in Form III (R'8), Functions of laboratories (R.9), Qualifications of Govt. Analyst (R.10), Manner of giving notice of alleged offence in Form IV (R. II), Notice, of accidental discharge to the authorities (R.I 2) and Sch. V, Factors to be considered while prohibiting or restricting the handling of hazardous substances (R.13) and submission of Environmental Statement for the financial year ending 31st March in Form V before the next 30th September every year to the Board (R.14) are prescribed.

Schedule-1 (Rule-3) : gives industry wise pollution parameters and their standards for 98 types of industries including stack height and test method for some parameters and also known as Minimum National Standards (MINAS).

Schedule-II (Rules-3) : was inserted on 12-9-1996 and omitted on 31-12-1993. thus now it does not exist.

Schedule-III (Rule-3) : gives ambient air quality standards for noise for 4 categories of area and time. Limits in dB vary from 40 to 75.

Schedule-IV (Rule-3) : specifies standards for vehicular emission, types of fuel and tests and exhaust gas values in Annexure I to IV. Parameters considered are CO, HC and NO..

Schedule-V (Rule-12) : gives authorities to be informed in case of excessive discharge. This includes authorities under the Atomic Energy Act, Factories Act, Mines and Minerals Act, Ports Act, Plantations Labour Act, Motor Vehicles Act and Merchant Shipping Act.

Schedule-VI (Rule-3A) : gives general standards for discharge of pollutants in five parts : (A) Effluents (B) Waste water generation (C) Load based standards for Oil Refinery and large Pulp & Paper mill (D) General emission standards based -on concentration, equipment and load/mass (E) Noise standards for automobiles and domestic appliances and also gives guidelines in Annexure I fell for the purposes of Part A to D.

See Table-14 in Chapter-32.

Schedule-VII (Rule-SB) : gives National Ambient Air Quality Standards (NAAQS) in terms of time weighted average concentration in ambient air (ug or mg/nr") for six main pollutants – SO₂, NO₂, Pb, CO, SPM (Suspended particulate matter) and RPM (respirable particulate matter) with their method of measurement. This table may be useful in keeping work environment record (e.g. Form 37 GFR). See 2nd Sch. under the Factories Act for in-plant exposure limits.

See Table-15 in Chapter-32.

Appendix -A prescribes Form I (R.7), II & III (R.8), IV (R.11) and V, Annual Environmental Statement (R.14).

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 :

U/s 6, 8 and 25 of the Environment (Protection) Act. 1986, these rules were made enforceable from 27-11-1989. They were amended in 1994 & 2000.

They have 20 Rules and 12 Schedules asunder:

- R1 - Short- title and commencement.
- R2 - Definitions.
- R3 - **Duties of Authorities:** To inspect the industrial activity at least once in a year and to perform duties mentioned in Sch. 5.
- R4 - General responsibility of the occupier.
- R5 - Notification of major accident.
- R6 - Industrial activity to which rules 7 to 15 apply.
- R7 - Approval & Notification of sites.
- R8 - Updating of the site notification following changes in the threshold quantity.
- R9 - Transitional provisions.
- R10 - Safety Reports and Safety Audit Report.
- R11 - Updating of reports u/r 10.
- R12 - Requirement for further information to be sent to the authority.
- R13 - Preparation of On Site emergency plan by the occupier.
- R14 - Preparation of Off Site emergency plan by the authority.
- R15 - Information to be given to persons liable to be affected by a major accident.
- R16 - Disclosure of information.
- R17 - Collection, Development and Dissemination of information.
- R18 - Import of hazardous chemicals.
- R19 - Improvement notices.
- R20 - Power of the Central Government to modify the schedules.

Then schedules as under -

Sch.1 - Indicative criteria and list of chemicals.
Part-I Toxic, flammable & Explosive chemicals.
Part-II List of 684 hazardous chemicals.

Sch.2 - Isolated storage other than those covered by Sch. 4. Threshold quantities of 30 chemicals are given.

Sch. 3- List of hazardous chemicals for application of R. 5 and 7 to' 15. Part - I named chemicals, 179. Part - II classes of chemicals not named in Part - I (flammable gases and liquids)

Sch.4 - Hazardous operations and processes.

Sch.5 - Authorities and their duties (addition).

Sch.6 - Notification of a major accident.

Sch. 7- Notification of sites.

Part-I regarding site,

Part-II regarding pipeline.

Sch. 8 - A safety report.

Sch. 9 - Safety data sheet (MSDS).

Sch. 10 - Record of hazardous chemicals imported.

Sch. 11 - Details of on - site emergency plan.

Sch. 12 - Details of off-site emergency plan.

Thus these rules impose greater duty on occupiers and authorities in identifying major accident hazard (MAH) installations and taking safety measures for them.

Noise Pollution (Regulation and Control) Rules, 2000

U/s 3, 6 & 25 of the Environment (Protection) Act 1986 these rules were made. They came into force from 14-2-2000. They were amended in 2000 & 2006.

Its objective is to (1) regulate and control noise producing and generating sources and to (2) maintain ambient air quality standards in respect of noise as specified in the Schedule.

They have 8 rules and I schedule.

Rule 2 has 8 definitions including zone, court, educational institution, hospital etc.

Area within 100 mts around hospitals, educational institutions and courts may be declared as silence zone. Area categorization should be made as industrial, commercial, residential or silence zone as shown in the Schedule (R.3)

Noise levels shall not exceed levels specified in the Sch. as under (R.4)

Area Code	Category of Area/ Zone	Limits in dB (A) Leq*	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55

C	Residential area	55	45
D	Silence Zone	50	40
Leq* = It is energy mean of the noise level over a specified period. Day time 6 am to 10 pm Nigh time 10 pm to 6 am.			

See similar table 12.8 in Chapter-12.

Written permission is necessary to use loud speaker or public address system. They cannot be used between 10 pm and 6 am except in closed premises like auditoria, conference rooms, community halls, banquet halls etc. State Govt. has power to permit use between 10 pm to 12 midnight subject to terms and conditions (R.5)

Authority has power to prohibit vocal or musical sound also if it causes annoyance, disturbance, discomfort etc to any person or public (R.8)

Bio-Medical Waste (Management & Handling) Rules, 1998 :

Wastes generated from hospitals, medical & health institutions, R & D organization, laboratories and slaughter houses etc., where biological organisms are involved, have become an important source of environmental and public health problems. Generally these wastes are being disposed in the Municipal dumps.

The public have become aware of this problem and the issue was discussed in various forums. The major concern is proper disinfection, treatment and disposal of bio-medical wastes.

To evolve a proper system for regulation of treatment and disposal of medical wastes and in exercise of the powers conferred by Sections 6, 8 & 25 of the Environment (Protection) Act, 1986, the Ministry of Environment & Forests, Govt. of India framed these rules and made effective from 27-7-1998. They were amended in 2000 -& 2003.

There are 14 Rules with 6 Schedules and 5 Forms. These Rules provide Duty of Occupier, Treatment & Disposal, Segregation, Packing, Transportation & Storage, Prescribed Authority, Authorization, Advisory Committee, Monitoring in Armed forces medical centers by CPCB, Annual Report, Maintenance of Records, Accident Reporting, Appeal and common disposal/ incineration sites.

Out of 19 definitions, some areas under:

- A. "**Animal House**" means a place where animals are reared/kept for experiments or testing purposes;
- B. "**Authorization**" means permission granted by the prescribed authority for the generation, collection, reception, storage, transportation, treatment, disposal and/or any other form of handling of bio-medical waste in accordance with these rules and any guidelines issued by the Central Government.
- C. "**Biological**" means any preparation made from organisms or micro-organisms or product of metabolism and biochemical reactions intended for use in the diagnosis, immunization or the treatment of human beings or animals or in research activities pertaining thereto;

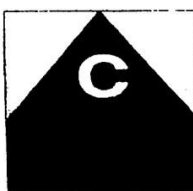
D. "**Bio-medical waste**" means any waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biological. There are ten categories of wastes and are listed in the Schedule-1. "Bio-medical waste treatment facility" means any facility wherein treatment, disposal of bio-medical waste or processes incidental to such treatment or disposal is carried out and includes common treatment facilities;

The Schedules are as under :

Sch. No.	Title
I	Categories of Bio-Medical waste.
II	Colour coding and type of container for disposal of Bio-Medical wastes.
III	Label for Bio-Medical waste containers / bags. (As shown below)
IV	Label for Transport of Bio-Medical waste containers / bags.
V.	Standards for Treatment & Disposal of Bio-Medical wastes like incineration, autoclave, liquid wastes, microwave system and deep burial;
VI	Schedule for Waste Treatment facilities like Incineration/ Auto Clave/ Microwave system.



Biohazard



Cytotoxic

The Forms are:

I	Application for Authorization
II	Annual Report
III	Accident Reporting
IV	Authorization
V	Application for Appeal

Schedule-I : Categories of Bio-Medical

Category No.	Waste Category	Treatment & Disposal
1	Human Anatomical Waste	incineration@/ deep burial*
2	Animal waste	incineration@/ deep burial*
3	Microbiology & Biotechnology waste	Local autoclaving / microwaving / incineration @
4	Waste Sharps	Disinfection (chemical treatment@ / autoclaving/ microwaving & mutilation / shredding*
5	Discarded medicines and Cytotoxic Drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destruction and drug disposal in secured landfills
6	Solid Waste	incineration@/autoclaving/ microwaving
7	Solid waste	Disinfection by chemical treatment@ / autoclaving / microwaving and mutilation / shredding##
8	Liquid Waste	Disinfection by chemical treatment@@ and discharge into drains
9	Incineration Ash	Disposal in municipal
10	Chemical Waste	Chemical treatment @ & discharge into drains for liquid and secured landfills for solids
@@ Chemicals treatment during at least 1% hypochlorite solution or any other equivalent chemical reagent. It must be measured that chemical treatment ensures disinfection.		
## Multination / shredding must be such so as to prevent unauthorized reuse.		
@ There will be no chemical pre-treatment before incineration. Chlorinated plastics shall not be incinerated.		
* Deep burial shall be option available only in towns with population less than five lakhs and rural areas.		

Duty of Occupier: It shall be the duty of every occupier of an institution generating bio-medical waste which includes a hospital, nursing home, clinic, dispensary, veterinary institution, animal house, pathological laboratory, blood bank by whatever name called to take all steps to ensure that such waste is handled without any adverse effect to human health and the environment.

Treatment and Disposal:

1. Bio-medical waste shall be treated and disposed off in accordance with Schedule-1, and in compliance with the standards prescribed in Schedule-V.
2. Every occupier, where required, shall set up in accordance with the time schedule in Schedule VI, requisite bio-medical waste treatment facilities like incinerator, autoclave, microwave system for -the treatment of waste, or ensure requisite treatment of waste at a common waste treatment facility or any other waste treatment facility. (R.5)

Segregation, Packaging, Transportation and Storage:

Biomedical waste shall not be mixed with other wastes. Segregation as per Sch.U and labeling as per Sch. III. For wastes being transported information as per Sch. III. Use of authored vehicle only. Untreated wastes not to be stored beyond 48 hrs. Role of municipality (R.6).

Maintenance of Records:

1. Every authorized person shall maintain record related to the generation, collection, reception, storage, transportation, treatment, disposal and /or any form of handling of biomedical waste in accordance with these rules and any guidelines issued.
2. All records shall be subject to inspection and verification by the prescribed authority at any time. (R.11)

Accident Reporting: When any accident occurs at any institution or facility or any other site where bio-medical waste is handled or during transportation of such waste, the authorised person shall report the accident in Form-III to the prescribed authority forthwith. (R.12) SC Judgement:

In WP (Civil) No. 286/94 between BL Wadherav/ s Union of India, while monitoring its own judgement of 11-3-96, the Supreme Court went through 14 directions issued to various authorities and their compliance. Most of the Hospitals and Nursing homes in Delhi, agreed to provide incinerators or equally effective alternative for waste disposal.

E-WASTE(MANAGEMENT) RULE 2015

- 1) The e-waste (Management) Rules, 2015 rules shall apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbished, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I,
- 2) Collection of e-waste generated during the manufacturing of any electrical and electronic equipment and channelizing it for recycling or disposal.
- 3) Obtain the authorization form from the concerned State Pollution Control. form-1
- 4) Maintain records of the e-waste generated, handled and disposed in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board.
- 5) Fluorescent and other mercury containing lamps, where recyclers are not available, channelization may be from collection centre to Treatment, Storage and Disposal Facility.

- 6) A pre-treatment is necessary to immobilise the mercury and reduce the volume of waste to be disposed of for disposal in Treatment, Storage and Disposal Facility
- 7) ensure that no damage is caused to the environment during storage and transportation of e-waste
- 8) Every manufacturer, producer, bulk consumer, collection centre, dealer, refurbished, dismantler and recycler may store the e-waste for a period not exceeding one hundred and eighty days and shall maintain a record of collection, sale, transfer and storage of wastes and make these records available for inspection [RULE: 15- procedure for storage of e-waste]
- 9) The transportation of e-waste shall be carried out as per the manifest system whereby the transporter shall be required to carry a document (three copies) prepared by the sender, giving the details as per Form-6. [RULE: 19- Transportation of e-waste]
- 10) Provided that the transportation of waste generated from manufacturing or recycling destined for final disposal to a treatment, storage and disposal facility shall follow the provisions under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
- 11) Storing of E-Waste in landfills - environmental & health hazard
Incineration - environmental & health hazard
Reusing and recycling-limited life span, hazardous in unorganised sector
- 12) Government assist by encouraging setting up of integrated Transport, Storage and Disposal Facilities (TSDF) for hazardous waste management on Public Private Partnership (PPP) mode
- 13) The Ministry of Environment, Forest and Climate Change has notified E-Waste (Management) Rules, 2016. The rules - for the first time in India - introduced Extended Producer Responsibility (EPR).
- 14) The EPR is an environment protection strategy that makes the producer responsible for the entire life cycle of the product, especially for take back, recycle and final disposal of the product.
- 15) DISPOSING E-WASTE
 - (a) Donate working older equipment to schools' colleges or government entities in need.
 - (b) If PCs are out of order then return it to the manufacturers. (HCL and Wipro in India have best take back service).
 - (c) Send waste goods to authorised recycling facility for proper disposal.

BATTERIES (MANAGEMENT AND HANDLING) RULES, 2001

U/s 6, 8, & 25 of the Environment (protection) Act 1986, these rules were made and brought into force from 16-5-2001.

They have 14 rules, 1 schedule and 9 forms.

They apply to every manufacturer, importer, reconditioner, assembler, dealer, recycler, auctioneer, consumer and bulk consumer involved in manufacture, processing, sale, purchase and use of batteries or components thereof.

There are 19 definitions u/r 3 some of which are as under -

"Battery" means lead acid battery which is a source of electrical energy and contains lead metal;

"Consumer" means a person using lead acid batteries excluding bulk consumers;

"Re-conditioner" means a person involved in repairing of lead acid batteries for selling the same in the market;

"Recycler" means an occupier who processes used lead acid batteries or components thereof for recovering lead;

Responsibilities of manufacturer, importer, assembler and re-conditioner are stated in R.4 and those of dealer in R. 7, of recycler in R.8, of consumer in R. 10 and of auctioneer in R. II.

Importers have to register themselves (R.5 & 6). Registration procedure for recyclers is given in R. 9.

Prescribed authority is State Pollution Control Board (R.12). Duties of CPCB are mentioned in R. 13 and those of MoEF in R. 14 for records and returns.

Used batteries are to be collected back by the manufacturer and dealer and appropriate discount shall be given to the consumer. Safe transportation, no damage during storage and transportation and collected batteries are to be sent only to the registered recyclers.

Recycler shall mark 'Recycled' on lead recovered by him and create public awareness regarding hazards of lead and obligations of consumers to return used batteries only to the registered dealers or at the designated collection centers.

HAZARDOUS WASTES (MANAGEMENT AND HANDLING) RULES, 1989:

The Central Government u/s 6,8& 25 of the Environment (Protection) Act made these rules effective from 28-7-1989.

They were amended in 1996, 2000, 2003 I

They have 21 rules, 8 schedules and 13 forms.

Application (R.2) : These rules apply to hazardous wastes as specified in Schedules, but do not apply to Waste water and exhaust gases, wastes arising out of operation from ships beyond 5 km, radio-active wastes, biomedical wastes, municipal solid waste; lead acid batteries wastes as there are separate rule for them.

Definitions (R.3):

There are 36 definitions some of which are a under:

Applicant means a person or organization the applies in Form-1 for granting authorization for handling of hazardous waste.

Authorization means permission for collection transport, treatment, reception, storage and disposal of hazardous wastes granted by the competent authority in Form-2.

Hazardous waste means any waste which b reason of any of its physical, chemical, reactive, toxic, flammable, explosive or corrosive characteristics causes danger or is likely to cause danger to health or environment, whether alone or when in contact with other wastes or substances, and shall include wastes listed in Sch. 1, 2 & 3.

Disposal means deposit, treatment, recycling and recovery of any hazardous wastes;

Facility means a location wherein the processes incidental to the waste generation, collection, reception, treatment, storage and disposal are carried out.

Hazardous Wastes Site means a place duly approved by the competent authority for collection, reception, treatment, storage and disposal of hazardous wastes.

Operator of a facility means an owner or operator of the facility defined above.

The occupier generating hazardous wastes listed in the Schedules 1, 2 & 3 shall take all practical steps for safe disposal of the wastes either himself or through an operator of a facility. The occupier should supply specified (safety) information to the operator of a facility (R. 4).

Application for authorization in Form-1 by the occupier or a facility operator and grant of such authorization with conditions in Form-2 after satisfying that they possess appropriate facilities, technical capabilities and equipment to handle the wastes safely. Such authorization lasts for validity specified by SPCB unless sooner suspended or cancelled and then needs renewal in Form-1. It can be refused also (R. 5).

If the conditions are not fulfilled, the granted authorization can be cancelled or suspended by the State Pollution Control Board or Committee after a show cause notice and subsequent instruction for the safe storage of the hazardous wastes (R. 6).

Packing, labeling and transport of such wastes should, be in accordance with the Motor Vehicle Act and rules made there under and in a condition to withstand physical and climatic factors. Label as in Form 8 necessary (R. 7).

The occupier or operator of a facility shall identify wastes disposal site. EIA and public hearing are necessary (R.8).

Design and operation of the landfill site shall be as approved by SPCB (R. 8A & B).

The occupier generating waste and operator of a facility shall maintain records in Form-3 and shall send annual returns in Form-4. (R.9).

Any accident during transport or at the facility shall be reported immediately to the State Pollution Control Board or Committee in Form-5. (R.10).

Import and export of hazardous wastes specified in Sch. 8 is not permitted for dumping and disposal. It may be permitted for processing or re-use as raw material and after getting necessary information in Form 6 & 6A from the exporter and importer both and after examining each case on Jnerit. The importer shall maintain records in Form-7A""and allow inspection by the authority (R.II& 12).

Rule 13 to 15 are also for import and export. Rule 19 and 21 are for re-refining and recycling. R.20 states responsibility of wastes generator.

An appeal shall lie before the State or Central Government depending on order and as provided in

R. 18.

Subjects of Schedules are as under:

Sc h. No	Subject
1	Process wise list of hazardous wastes
2	Concentration wise list of hazardous wastes
3	List of wastes for import and export
4 & 6	Recycling of wastes
5	Re-refining of wastes
7	Authorities
8	List of wastes prohibited for import and export.

CHEMICAL ACCIDENTS (EMERGENCY PLANNING, PREPAREDNESS AND RESPONSE) RULES, 1996 :

The Central Govt. u/s 6, 8 and 25 of the Environment (Protection) Act, 1986 made these rules. They were notified and brought into force on 1-8-1996. They were amended in 1998.

They contain 13. rules and 8 schedules. Their abstract is as under : Definitions (R. 2):

They contain 12 definitions some of which are as under:

Chemical accident - See part 3.8 of Chap-2.

Industrial pocket means any industrial zone earmarked by the Industrial Development Corporation of the State Government or by the State Government.

Major Accident Hazards (MAH) Installation See part 3.55 of Chapter 2.

Off-site emergency plan means the plan prepared as per Sch. 12 u/r 14(1) of the MSIHC Rules. (similarly On-site emergency plan means that prepared as per Sch. II u/r 13(1) of the MSIHC Rules.).

'Major Chemical accident'

See Part 3.54 of Chapter 2.

Different Crisis Groups : The constitution of the Central, State, District and Local Crisis Group shall be as specified in Sch. 5,6,7 & 8 respectively. The members of the Central, State and District Crisis Groups are empowered u/s 10(1) of the EP Act 1986 to enjoy those powers. The MAH installations shall aid, assist and facilitate the functioning of the District and Local Crisis Groups. Meeting of the Central, State, District and Local Crisis Group shall be held at 6 months, 3 months, 45 days and 30 days respectively. Functions of the Central, State, District and Local Crisis Groups given in Rule 5, 7, 9 and 10 respectively are summarised in the following Table.

Functions of the Crisis Groups (Rule 5, 7, 9 & 10):

Central Crisis Group (Rule 5)		State Crisis Group (Rule 7)	
1	Expert guidance	Same as No. 1 to 7 functions for group mentioned	
2	Monitoring of post accident situation and remedial measures to prevent recurrence.	8	Assistance of the State Govt. in plan prepared, mitigation of major accidents.
3	Post accident analysis and evaluation of responses.	9	Quarterly report to the CCG.
4	Review of District offsite emergency plans and reports received.		
5	Respond to queries		
6	Statewise list of experts.		
7	Financial and other help.		
8	Informatin to public.		
District Crisis Group (Rule 9)		Local Crisis Group (Rule 10)	
1	Expert guidance.	1	Preparation of local emergency

			plan for the industrial pocket and dovetailing of this plan with the Dist. Off-site emergency plan.
2	Preparation of Dist. Off-site emergency plan.	2	Training of persons and public
3	Review of all on-site emergency plans of MAH units.	3	Half-yearly mock drill and report to DCG.
4	Management of chemical accidents in the district.	4	Respond to public inquiries.

5	Monitoring of every chemical accident	5	Information to public.
6	Continuous information to the CCG and SCG.	6	Assistance to MAH units for informing persons likely to be affected.
7	Report of chemical accident within 15 days to SCG.		
8	Yearly mock drill and report to SCG.		

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Information to the Public :The Central, State and Local Crisis Group shall provide information on request regarding chemical accident prevention, preparedness and mitigation to the public in their respective jurisdiction. The Local Crisis Group shall assist the MAH installations in taking appropriate steps to inform persons likely to be affected by a chemical accident (R. 13).

Crisis Alert system :The Central Govt. shall set up functional control room, information network with state and district control rooms, appoint staff and experts in control room, publish lists of (i) MAH installations (ii) Major chemical accidents in chronological order (iii) Members of the Central, State and District Groups and take measures to create awareness amongst the public to prevent chemical accidents (R. 4).

Schedules:

Sch.I to 4-the same as Sch.I to 4 of the MSIHC Rules 1989 or R 68J, GFR 1963.

Sch. 5 to 8- List of members for CCG, SCG, DCG and LCG respectively.

CHAPTER 4

LAWS ON BOILER SAFETY

BOILERS ACT, 1923:

The Boilers Act (No. 5 of 1923) was notified on 4-12-1923. It came into force from 1-1-1924. It has 34 sections. It is amended by the Act No. 49 of 2007 which became effective by Notification dtd. 13-12-2007. Section 2 of the Act defines as under :

Boiler means a pressure vessel in which steam is generated for use external to itself by application of heat which is wholly or partly under pressure when steam is shut off but does not include a pressure vessel-

1. with capacity. < 25 ltrs (such capacity being measured from the feed check valve to ,the main steam stop valve)
2. with < 1 kg/cm' design gauge pressure and working gauge pressure or
3. in which water is heated below 100 °C.

Boiler Component means steam piping, feed piping, economiser, super heater, any mounting or other fitting and any other external or internal part of a boiler which is subject to pressure exceeding 1 kg/ cm² gauge.

Economiser means any part of a feed-pipe that is wholly or partially exposed to the action of flue gas for the purpose of recovery of waste heat.

Super heater means any equipment which is partly or wholly exposed to flue gases for the purpose of raising the temperature of a steam beyond the saturation temperature at the pressure and includes a reheater.

Steam Pipe : means any pipe through which steam passes if (i) The pressure at which steam passes through such pipe exceeds 3.5 kg/ m² above atmospheric pressure or (ii) Such pipe exceeds 254 mm in internal diameter and pressure > 1 kg/cm² and includes, in either case any connected fitting of a steam pipe.

Accident as defined u/s 2(a) means an explosion of boiler or boiler component which is calculated to weaken the strength or an uncontrolled release of water or steam therefrom, liable to cause death or injury to any person or damage to any property.

Sec. 18 requires report of accident and inquiry in case of fatal accident.

New definitions of Competent authority, Competent person, Inspecting authority, Technical advisor and structural alteration, addition or renewal are added.

Now not only boiler inspector but competent person can also inspect and certify boiler and its components during manufacture, erection and use. Inspecting authority can do this job during manufacture.

Unregistered or uncertified boiler shall not be used save as otherwise provided in the

Act. Prior sanction of the Chief Inspector is necessary before carrying out any structural alteration, addition or renewal in or to any boiler or steam pipe. Any accident to a boiler or steam pipe shall be reported to the Inspector within 24 hours. His report shall be in form E (Rule 48).

Section 27A provides to form a Central Boiler Board consisting of members, nominating by the Central Government the representatives from the Central Government, Bureau of Indian Standards, Boiler and boiler component manufacturers. Users and other interests.

Section 28 provides power and matters of regulations by the Board. Sec. 28A and 29 are for the rule making power of Central and State Govt. respectively.

Central Boilers Board makes and notifies regulations consistent with this Act. The main duties of the Boiler Inspector are the inspection and examination of boilers and steam-pipes in accordance with chapter IX of the Regulations and Chapter IV and V of the Gujarat Boiler Rules 1966. Reduction of pressure can be suggested. Sanction for repairs to boilers shall be obtained beforehand. Provisional orders should be issued after hydraulic tests.

Penalties have been increased up to Rs. 1 lac or /and 2 years imprisonment u/s 24.

INDIAN BOILERS REGULATIONS, 1950 (IBR):

The Central Boilers Board u/s 28 of the Boilers Act, 1923 published the Indian Boiler Regulations 1950. They came into force from 15-9 -1950. They were amended in 1990, 1993, 1994, 1995, 1996, 1997 and 2004. They have 15 chapters, 635 regulations, forms up to XVIG and Appendices A to M.

Definitions:

Definitions of accident, boiler, Chief Inspector, economizer, feed-pipe and owner are the same as given in the Act.

Competent Authority means an authority recognized by the Central Boilers Board to issue certificates to welders for the purposes of regulation 4(b)(ii) and 605.

Inspecting Authority means an authority recognized by the Board as competent to grant a certificate in Form II, IIA or IIB and specified in Appendix-C, which includes Chief Inspectors of boilers of various states of our country as well as foreign and many foreign companies.

Inspecting Officer means an officer appointed by the Inspecting authority or an officer acting on their behalf for the purposes of approval of drawings, stage wise inspection of manufacture, examination of repairs, signing and issue of certificates, material manufactured and boilers constructed.

Thus the central boilers board and authorities and officers recognised by them provide the backbone of boilers safety and checking from design to operation, maintenance and repair stages.

Boilers are classified as under :

Class	Limits of application	Minimum thickness	Constant
I	No limit	0.25 Inch	32
II	(a WP < 105) psi (b WP in psi) x ID < 5250 inches.	IF ID is upto 36" 5/16 inch	27
III	(a WP < 30) psi (b WP in psi) x ID < 3000 inches.	ID over 36", 3/8 inch	23 if stress relieved 21 if stress not relieved

Working pressure (WP) of the cylindrical shell

$$W P = \frac{(t-2)SC}{D}$$

Where
t =

- t = Min. plate thickness in 30 seconds of an inch.
- D = Max. ID in inches.
- S = Min. tensile strength in T/in'
- C = Constant as given in above table

In no case, the thickness should be less than that mentioned in above table or the factor of safety less than 4.

Form -6 is the certificate for use of a boiler (reg. 389) with conditions. Appendix-J gives a long list of stages for inspection and testing by the Inspecting Authority. Appendix L provides for testing procedure for safety valve discharge efficiency.

Regulation 396 is regarding safety of persons inside boilers. Effective disconnection from steam or hot water, discharge arrangement for leakage, hand lamp of < 24 volt with lamp guard, key less socket, insulated handle and extension cord' of approved type are required. Power driven equipment should have effective earthing. Method of disconnection should be got approved from the CIB.

Chapter XIV (Reg. 618 to 622) was substituted with effect from 9-10-1993 and renamed as 'Small Industrial Boilers' (SIB).

Shell type SIB should have volumetric capacity > 22.75 ltrs. but < 500 ltrs, pressure up to 7 kg/cm² or coil type or water tube boiler with capacity < 150 ltrs., pressure < 12 kg/cm² Guidelines for registration, operation and maintenance are given in Reg. 622. Relaxations are given.

ELECTRICITY ACT, 2003:

Replacing the Indian Electricity Act 1910, this Electricity Act 2003 (No. 36 of 2003) came into force on 10-6-2003. It was amended in the same year with effect from 21-1-2004.

It has 18 parts, 185 sections and a Schedule.

Its preamble runs as under :

An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally of taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalisation of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto.

Section-2 gives 77 definitions like board, captive generating plant, cogeneration, conservation, dedicated transmission lines, distribution system, electric line, electricity, electricity system, generating station, grid, high voltage line, line, main, overhead line, power system, service-line, street, sub-station, transmission lines and works etc.

Sections 3 toll are pertaining to grant of license and its revocation, amendment, purchase etc.

Section 161 regarding Notice of Accidents & Inquiries provides that (1) an accident to any person or animal resulting or likely to result in death or any injury is to be reported to the Electrical Inspector and other authorities in a prescribed time and (2) inquiry and report by the Electrical Inspector into the cause of accident affecting safety of the public and manner of compliance of statutory requirements.

Section 162 is regarding appointment of Chief Electrical Inspector and Electrical Inspector.

Subjects of this Act are asunder:

Part No.	Sections	Subject
1	1-2	Preliminary
2	3-6	National Electricity Policy and Plan
3	7-11	Generation of Electricity
4	12-24	Licences in g
5	25-41	Transmission of Electricity
6	42-60	Distribution of Electricity
7	61-66	Tariff
8	67-69	Works
9	70-75	Central Electricity Authority
10	76-109	Regulatory Commissions
11	110-125	Appellate Tribunal for Electricity
12	126-130	Investigation and Enforcement
13	131-134	Reorganisation of Board
14	135-152	Offences and Penalties
15	153-157	Special Courts
16	158	Dispute Resolution
17	159-165	Other Provisions
18	166-185	Miscellaneous

INDIAN ELECTRICITY RULES, 1956:

U/s37 of the Electricity Act, 1910, the Central Electricity Board, made these rules which were published and came into force from 26-6-1956.

The rules were amended in 1991, 1993, 2000, 2002. It has II Chapters, 143 rules and 15 Annexure. From safety point of view following two chapters are more important.

Ch	Rul	Title
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ap er	es	
IV	29- 46 109	General Safety Requirements.
X	- 132	Additional Precautions to be adopted in Mines & Oil-fields.

A short summary of the rules is given below. For full details, the statute book should be referred.

Rule 2 gives 57 definitions. 'Danger' is defined as danger to life or body part from shock, burn, fire, and explosion, injury to persons or property because of the electrical energy.

Flameproof enclosure means an enclosure for electrical machinery or apparatus to withstand internal explosion due to flammable gas or vapour entered inside and preventing this internal flammation to come out to the external flammable gas or vapour in which it is designed to be used.

Guarded means covered, shielded, fenced or otherwise protected by means of suitable casing, barrier, rails or metal screens to remove the possibility of dangerous contact or approach by persons or objects to a point of danger.

'Intrinsically safe' as applied to apparatus or associated circuits shall denote that any sparking that may occur in normal working is incapable to cause explosion of inflammable gas or vapour.

Voltage category is defined as low<250V, medium<650V, high<33KV, extra high> 33KV.

Rule 4 prescribes appointment and qualifications for Electrical Inspectors that degree in electrical engineering with at least 8 years practical experience. For assistant inspectors BE(E) + 3 years experience or DME + 6 years experience is prescribed. Rule 5 gives their powers of entry and inspection.

Chapter-3, rules II to 28 prescribes licensing procedure including maps, forms and conditions.

Chapter-4, rules 29 to 46, give following general safety provisions:

General Safety Provisions:

Electric supply lines and apparatus, shall be of sufficient ratings, mechanical strength and so constructed, installed, protected, worked and maintained to ensure safety of human being, animals and property. IS and National Electrical Code shall be followed (R.29).

Supplier and consumer, both, will take due precautions to avoid danger from service lines and apparatus on consumer's premises (R.30).

Suitable cut-outs (e.g. fuse) in fireproof receptacles shall be provided in every service line (other than earth lines) at consumer's premises (R.31).

Earth and neutral conductors shall be identified to distinguish from live conductor and position of switches and cut-out shall be safe (R.32).

Earth connection (terminal) shall be provided near the point of start of supply and the consumer shall take steps to protect it from mechanical damage (R.33).

Bare conductors should be inaccessible with readily accessible switches to cut off power supply (R.34).

Danger notice in Hindi, English or local language with a sign of skull and bones (IS-2551) and the words 'danger and 'volts' is necessary near medium and higher voltage installation (i.e. above 250V). (R.35).

For the safety from supply lines and apparatus, earthing of lines, PPE to workers (gloves, rubber shoes, safety belts, ladders, earthing devices, helmets, line testers and hand lamps, for protection from electrical and mechanical injury), and authorised working on live lines are necessary (R.36).

Voltage cut off switch (in one operation) is a must in every electric vehicle, crane, etc. and the metal rails, if any, should be electrically continuous and earthed (R.37).

Flexible cables to portable apparatus should be heavily insulated and well protected from mechanical damage. For single phase line the cable should be of 3 core and for 3 phase line, it should be of 4 core type with the distinguished ground connection. Metal covering, if any, should be earthed (R.38).

Insulating or protecting material of electric line should not be of such material that may produce noxious or flammable gases on excessive heating (R.39).

Street boxes should be free from influx of water or gas. They should be inspected regularly for that (R.40).

Different circuits should be distinguished from each other (R.41).

Voltage should not exceed the limits and AC-DC circuits should not come into contact with each other when live (R.42).

Fire extinguishers for electric fire, fire buckets with clean, dry sand, first-aid boxes, two or more gas masks to be used in the event of fire or smoke are necessary (R.43).

Notice of instructions to restore person from electric shock and an artificial respirator (resuscitation) necessary (R.44).

Fatal accident should be reported within 24 hours and non-fatal accident, in Annex-XIH, in 48 hours (R.44A).

Electric work shall be carried out by licensed electrical contractor under direct supervision of a competent person and a person holding permit by the State Government. Unauthorized work shall not be energised (R.45).

Inspection of installation at every 5 years by the Inspector. Annex-IXA is an inspection report Form (R.46).

Chapter-V (R.47 to 59) gives general conditions relating to supply and use of energy. Rule 51 for medium, high and extra high voltage installations should be referred. .

Chapter-VI (R.60 to 62) for low and medium voltages (upto 650V) and Chapter-VU (R.63 to 73) for high and extra high voltage (more than 650V) provide for insulation resistance test, earth connection, ELCB, testing, operation and maintenance, condensers and supply to high voltage installation including X-ray unit, etc.

Chapter-VIII (R.74 to 93) gives important safety clearances (see Part 4.6 of Chapter-11) above ground and between conductors and provisions for material strength, stresses, joints, guarding, earthing, safety and protective devices (R.91 for safety of line when it breaks, unauthorized entry near overhead lines) etc.

Chapter-IX (R.94 to 108) is for electric traction, and provides for voltage supply to vehicle, insulation of lines, returns and sections, current density (less than 1.4 Amp/cm²) in rails, height of trolley-wire (more than 5.2 m high) etc.

Chapter-X (R.109 to 132) is regarding safety precautions while working in mines and oil-fields. They include plans, notices, lighting, communications, fire precautions, earthing, protective equipment, voltage limits (Hand lamp or electric interlocking 30V, portable apparatus 125V, at surface or in open 250V), safety with gas supervision etc.

Chapter-XI (R.133 to 143) gives relaxation and penalty provisions.

ELECTRICITY RULES, 2005

U/s 176 of the Electricity Act, 2003 these rules were made and they came into force from 8-6-2005. They were amended in the same year with effect from 26-10-2006.

They have 13 rules. Rule 3 gives requirements of captive generating plant. Other provisions are regarding distribution system, surcharge u/s 38, consumer redressed forum, tariff u/s 79, interstate trading license etc.

EXPLOSIVES ACT, 1884:

This Act (4 of 1884) was enacted on 26-2-1884. It came into force from 1-7-1884. It extends to the whole of India. It has 18 sections.

Its object is to regulate the manufacture, possession, use, sale, transport, import and export of explosives.

Explosive as defined in Sec, 4(d) means gunpowder, nitro-glycerine, nitroglycerol, guncotton, di-nitro-toluene, tri-nitro-toluene, picric acid, di-nitrophenol, tri-nitro resorcinol (styphnic acid) cyclo trimethylene-tri-nitroamine, penta- erythritol tetranitrate, tetryl, nitro guanidine, lead azide, lead styphnate, fulminate of mercury or any other metal, diazo-di-nitro phenol, coloured fires or any other substance, whether a single chemical compound or a mixture of substances, whether solid or liquid or gaseous used or manufactured with a view to produce a practical effect by explosion or pyrotechnic effect and includes fog-signals, fire works, fuses, rockets, percussion-caps, detonators, cartridges, ammunition of all descriptions and every adaptation or preparation of as an explosive as defined in this clause.

Aircraft carriage and vessel are also defined in this section.

Main Provisions:

1. A person below the age of 18 years, offender of violence or moral turpitude, who is ordered to keep peace or good behaviour or whose licence is cancelled for any offence under this act, cannot manufacture, sell, transport, import or export, deliver or dispatch or possess any explosive defined or notified. (Sec. 6A)
2. Licence can be granted, refused, varied, suspended, revoked and conditions can be imposed (Sec. 6B to 6E). Appeal can be preferred as per sec. 6F.
3. The Central Government has power to make rules regarding inspection, search, seizure, detention and removal (Sec. 7).

4. Notice of accident is required u/s 8 and its inquiry shall be conducted u/s 9. The Central Government can inquire into more serious accidents (Sec. 9A).
5. Explosives with receptacles shall be forfeited by the court after conviction (Sec. 10).
6. Abetment and attempt to commit offence under this Act or Rules is punishable (Sec. 12).
7. Any person found committing any offence punishable under this Act can be arrested without warrant, be removed from the place and conveyed before a magistrate (Sec. 13).
8. The Central Government can delegate its power to State Government or an officer u/s 17A.

EXPLOSIVES RULES, 1983 :

U/s 5 and 7 of the Explosives Act, 1884, these rules were published on 2-3-1983. They have 10 chapters, 186 rules, 8 Schedules, 40 Forms under Schedule V and 8 specifications (guidelines) under schedule VII. Last schedule VIII gives safety distances in two tables. Five annexure are given at the end. Exhaustive details are provided of which a short abstract is given below :

Definitions : Chief Controller of Explosive (CCE) is the main authority. He can recognise a competent person by giving him a certificate of competency. Prohibited explosives mean that u/s 6, authorised explosives mean those published by the Government and permitted explosives mean those permitted by the Director General of Mines Safety to be used in underground coal mines.

Detonator, safety cartridge, safety fuse, safety zone etc. are defined. Magazine means a building to store more than 5 kg of explosive and specially constructed as approved by the CCE. Protected works include a dwelling house, college, school, hospital, theatre, factory, storage of hazardous substances, public road, railway, waterways, dams, reservoirs, high tension power lines. Safety zone is a distance required between such protected work and a licensed factory, magazine or store-house.

Safety Distance Categories of Explosives : According to the risks, they are as under :

Category	Explosives
X	Which have a fire or slight explosion risk or both but the effect is local.
Y	Which have a mass fire risk or a moderate explosion risk but not the risk of mass explosion.
Z	Which have mass explosion risk and major missile effect.
ZZ	Which have mass explosion risk and minor missile effect.

On any question of category, decision of the CCE shall be final.

General Provisions (Chap-11, Rule 5 to 20) :

- 1 Import, export, transport, manufacture, process, use or sell of unauthorised explosives

is prohibited. Testing and trial are permitted in a licensed factory. (R.5).

2 Application for authorisation of explosives is necessary. Particulars are prescribed for submission. A sample shall be sent as per instruction from CC (R. 6).

3 Tests prescribed [R. 6 (6)]

1. Physical properties including consistency, reaction, tendency to absorb moisture, segregation of the constituents, exudation, behaviour at low temperature, specific gravity etc.
2. Chemical composition- percentage and quality of ingredients.
3. Stability - effect of environmental conditions which would produce spontaneous ignition or variation in sensitiveness.
4. Ignition characteristics- ignition point, behaviour, liability to spontaneous ignition.
5. Mechanical sensitiveness to friction and impact.
6. Air gap sensitivity and transmission of detonation..
7. Velocity of detonating.
8. Strength determination.
9. Gases evolved upon explosion.
10. Such other tests specified by the CCE.
11. Any other test required by CCE.
12. Delivery and Dispatch under licence and not exceeding the quantity (R.7).
13. Packing as per Schedule H and after approval of the sample (R. 8).
14. Marking of packages should mention the word "EXPLOSIVES" (not required for fireworks and safety fuse), name of the authorised explosive, class number and division, safety distance category, names of manufacturer, consignor and consignee, net weight and letter 'V' for permitted explosive (R.9)
15. Weight of explosive shall not include the weight of the packing box (10.)
16. Competent person should be in-charge of operations (R.11)
17. Precautions in handling- Floor should be checked, cleaned and swept before and after use. The packages shall not be thrown, dropped, rolled or pulled but shall be passed from hand to hand and carefully deposited. A slung package should be prevented from fall (R. 12).

B. Handling between sunset and sunrise is restricted unless proper lighting and guarding is provided. (R. 13).

C. Within 15 mt. of an explosive storage or at its place of handling or transport, smoking, fires, lights and flammable substances or substances to cause fire or explosion such as acids, petroleum, calcium carbide, compressed gases shall not be allowed (R. 14)

D. No person will carry matches, knives, fuses, iron or steel or wear shoes with iron nails (R. 15).

E. Split explosive shall be safely destroyed (R. 16).

F. Employment of person below 18 years, intoxicated persons and persons of unsound mind is prohibited (R. 17).

G. Precautions against danger from water (in compatible) or exposure to sun or heat are necessary (R. 18).

H. Special precautions against accident (fire or explosion), thefts, entry of unauthorised person near explosives are necessary. (R. 19).

5. Nitro-glycerine or Ethylene glycol dinitrate or explosives of Class-5, unauthorised, deteriorated or damaged explosives shall not be transported without approval of CC, except within the licensed factory solely for the purpose of manufacture of explosives (R. 20).

For classes of explosives see Sch. 1.

Import & Export (Chapter-111, Rule 21 to 31) :

Licence necessary (R. 21). Rules for import and export by sea, land and air are prescribed.

Transport (Chapter-IV, R 32 to 86):

Licence necessary (R. 32). Certain explosives cannot be transported together (R. 33). Safety certificate is required (R. 34). No transport of explosives with passengers (R. 35). Maximum weights as per R. 36. Loading and unloading procedure (R. 38 to 45.). Transport by water (R. 46 to 61) Transport by Rail (R. 62 to 74). Transport by Road (R. 75 to 86). Licence for road van necessary. Towing not allowed. Four wheel chocks to be carried all the time. In case of fire, traffic to be stopped 300 metres away. Accident to be reported. Two fire extinguishers of 2 kg or ..more capacity required with road van.

Manufacture (Chapter-V, Rule 87 to 112) :

Licence necessary (R.87) and not necessary (R. 88). Approval of CC required (R. 89) Factory should have a wall or fencing 2 mt. high to prevent unauthorised entry (R. 90). Interior should be free from grit, iron or steel and kept clean (R. 92) .Surrounding mound or blast wall as approved by CC (R. 93). Oiled cotton, rags or waste not allowed to avoid spontaneous ignition (R. 94). Non-sparking tools made of wood, copper, brass or soft metal should be used (R. 95). Notice of maximum quantity of material and persons in a work room to be exhibited on process building (R. 96). Smoking prohibited (R. 97). Lightning conductor as per IS 2309, yearly checking of earth resistance and its notice are necessary (R.98). During thunder -storms work should be suspended and workers to be withdrawn to a safe place (R.99). Foreign matter in ingredients to be removed (R.IOO). Protection against fire. Cloths without pockets (R.IOI) Residues will be quickly removed (R.102). Before carrying out repairs to building, explosives shall be removed (R.103). Employment of competent person for process supervision (R.104). Birth or fitness certificate is necessary for age between 18 to 21 (R.105). Every vehicle, trolley or receptacle to carry explosives shall be free from iron steel etc. and be covered or closed (R.106). Maintenance of building, plant and equipment should be regular and good. (R.107). Testing facilities as approved by CC (R.108).Safe disposal of waste explosives (R.109). Unsafe process to be stopped (R.IIO). Up to date records to be maintained for 2 years (R. 112).

Possession, Sale and Use (Chapter-VI, Rule 113 to 153):

Licence necessary (R.113) and not necessary (R.114). Use of licensed premises only (R.115).Protection from lightning (R.116).Precautions during thunderstorm (R.117).Building to be kept clean (R.118 & 120).Maintenance of records (R.119).Hazardous articles not to be carried. Search for them and for cloths without pockets and suitable shoes (R.121). Premises to be kept locked (R.122). Security Guards for .round the clock (R.123). Repackaging or opening at safe place and safe distance (R.124). Explosives not to be kept in damaged boxes (R.125) No storage exceeding licensed quantity (R.126). Magazine storage in mode A or B as specified in Sch. VII (R.129). Surrounded by mound (R.131) and on ground floor only

(R.132).Storehouse of sound .construction (R.134). Type of premises, ground level minimum floor area 9m², separate entry and exit (R. 135). Special precautions to be observed for fire works (R.136).Safety distance 15 mt. or more from storage of explosives, flammable or hazardous materials (R.137). No sale of other articles (R.138).

Use of Explosives :Competent person to be employed (R.144). Restrictions on preparation of charges (R.145).Restriction to carry at the blasting site (R.146).Examination before use (R.147). Precautions at site (R. 148),.Warning procedure (R.149). Precautions while firing (R.150), against stray currents (R.151) fire, or accident (R.152). Blasting, operations under the Mines Act, 1952 are allowed.

Licences (Chapter VII, R 154 to 174).

Fees (Chapter VIII, R. 175 to 177).

Powers and Penalties (Chapter IX R. 178 to 181).

Accidents and Enquiries (Chap. X, R. 182 to 186).

Notice forthwith to the CCE, Nagpur, CE under jurisdiction and nearest police station (R.182). Procedure at courts of inquiry (R.183).Inquiry by a District Magistrate or a Police Commissioner (R. 184).Inquiry into more serious accidents (R. 185).

Schedule I (R. 3) Classes of Explosives :

Class 1	Gun-powder.
Class 2	Nitrate-mixture
Class 3	Nitro-compound
Class 4	Chlorate-mixture
Class 5	Fulminate
Class 6	Ammunition
Class 7	Fireworks
Class 8	Liquid Oxygen Explosives.

Detailed list of chemicals is given under each of these classes.

Schedule II (R. 8)	Packing of explosives
Schedule III (R. 21)	Methods of Testing
Schedule IV (R.155)	Licensing Authority Forms 1 to 40
Schedule V	40
Schedule VI	Explosives permitted to be imported and transported by air Specifications as
Schedule VII	under

Specification No. For

	Road Van to carry explosives
	Motor truck together with compressor unit
3,4& 5	Metal cases for conveyance of explosives
1.	Magazines (Storage), Mode A&B
2.	Store-house
8	Compressor mounted motor truck or tractor Sch. VIII Safety distances

PETROLEUM ACT, 1934:

This Act (No. 30 of 1934) came into force from 30-3-1937 (enacted on 16-9-1934) to consolidate and amend the law relating to import, transport, storage, production, refining and blending of petroleum. It extends to the whole of India. It has 4 chapters and 31 sections. Its abstract is as under :

Definitions :

Petroleum means any liquid hydrocarbon or mixture of hydrocarbons and any inflammable mixture (liquid, viscous or solid) containing any liquid hydrocarbon.

Flashpoint of petroleum means the lowest temperature at which it yields a vapour which will give a momentary flash when ignited, determined in accordance with chapter - II and rules made there under:

Petroleum class	F.P. Range
A	<23°C
B	23 to < 65°C
C	65 to < 93°C

Motor Conveyance means any vehicle running on land, water or air and in which petroleum is used to generate the motive power.

Control over Petroleum (Chap. 1, Sec. 3 to 13) :

The Central Government may make rules for import, transport, production, refining and blending of petroleum (Sec. 3 to 5).

On receptacles of class A petroleum the words "Petrol" or "Motor Spirit" should be mentioned. This is not required where quantity is less than 10 litres or on a fuel tank attached with a motor conveyance or engine, a pipeline, underground tank or exempted by the Central Government (S. 6).

Licence is not required (i) for class B petroleum if it is contained in a receptacle having less than 1000 litres capacity and total quantity at any one place does not exceed 2500 litres or (ii) for class C petroleum if total quantity at any one place does not exceed 45000 litres and stored or transported as per rules u/s 4 (S. 7).-

No licence is necessary to keep less than 30 litres class A petroleum not intended for sale. Then it can be stored in metal container of maximum 25 litres capacity and non-metal container of maximum 1 ltr capacity (S. 8).

To use as a fuel in a motor conveyance, not more than 100 litres class A petroleum can be stored or conveyed (S. 9).

No licence is needed by Railway to carry petroleum (R.IO). This chapter is not applicable to any petroleum having flash point above 93°C (S. II).

Testing of Petroleum (Chap. II Sec. 14 to 22) :

The Central Government can make rules for taking samples for testing and authorise any officer for that purpose (S. 14 to 17) to give certificate of testing (S.19) or retesting (S. 20). The officer shall use a standard test apparatus (S.15, 16 & 18). The Central Government has rule making powers u/s 21 and 22.

Penalties & Procedure (Chapter III S. 23 to 28):

General penalty is up to Rs. 1000 or one month or both and enhanced (for repeated offence) penalty up to Rs. 5000 or 3 months or both (S. 23). Petroleum together with receptacles can be confiscated (S. 24). Authorised officer has power of entry and search (S.26) Notice of accident shall be given to the nearest magistrate, police station and to the Chief Controller of Explosives (S. 27). In case of death or serious accident, inquiry u/s 176 of the Cr. P. C., 1973 shall be held by a Magistrate or a Police Commissioner.

Supplemental (Chapter -IV S. 29 to 31):

Rule making power and procedure and inclusion of rules to provide for protection of public from danger of petroleum (S. 29). The Central Government can limit or restrict the powers of any local authority (S. 31).

PETROLEUM RULES, 2002:

These rules were enacted u/s 29 of the Petroleum Act, 1934. They came into force on 13-3-2002. They have 12 chapters, 202 rules, 5 Schedules and 20 Forms under the 2nd Schedule. Its abstract is give below

Chapter -I : Preliminary (R. I to 13) :

Definitions:

There are 35 definitions. Some are given below.

'Adequate' in relation to ventilation, means the flammable gas-air mixture below the lower explosive or inflammable limit (LEL) or in relation to fire fighting facilities, those as per prevalent recognised standards or codes of safety.

Competent person means a person recognised by the Chief Controller of Explosives (CCE) or by an institution recognised by the CCE.

Container means a receptacle for petroleum of less than 1000 ltr. capacity.

Tank means a receptacle for petroleum of more than 1000 ltr. capacity.

Electric apparatus includes motors, starters, lamps, switches, junction boxes, fuses, cut-outs or any other appliance, equipment or fitting which operates electricity.

Hot work means any work which involves welding, burning, soldering, brazing, blasting, chipping by spark producing tools, use of certain power driven tools, non-flameproof electrical equipment or equipment with internal combustion engines and including any other work which is likely to produce sufficient heat capable of igniting inflammable gases.

Protected area means the safety distance 'specified by the licence condition under these rules.

Protected Works include dwelling house, assemble, dock, fuel yard, furnace, kiln, chimney, petroleum storage, public road, railway siding for oil and overhead high tension power lines.

Inspector, Sampling officer and Testing officer are those authorised u/s 13, 14 and 17 respectively.

There are many other definitions also like installation, OISD, petroleum inbulk, service station, storage shed and some vehicles with tank (R.2).

General Provisions (R 3 to 13):

Delivery and despatch not possible without storage licence. Class B petroleum up to 15000 litres in air tight approved container can be despatched to a person not holding a storage licence for immediate disposal. DCP extinguisher should be carried with a container of more than 2500 litres. Rule not applicable for despatch to the Defence Forces (R.3). Approval of CC is necessary for class A petroleum container of more than 1 litre capacity and class B & C petroleum container of more than 5 litre capacity (R.4). Containers for Class A petroleum should be of sound material a construction, approved type and of the following minimum thickness of iron or steel sheet –

Container Capacity in litres, exclusive of	Minimum thickness in
--	----------------------

5% free Space	mm
Up to 10	0.443 (27 BG)
Exceeding 10 and up to 25	0.63 (24 BG)
Exceeding 25 and up to 50	0.80 (22 BG)
Exceeding 50 and up to 200	1.25 (18 BG)
Exceeding 200 and up to 300	1.59 (16 BG)

The capacity of any container (Class A) shall not exceed 300 litres. Higher capacities for specified purposes need approval by CC. 5% air space necessary (R.5).

Minimum 5% and 3% air space are necessary for class B and C petroleum respectively (R.6).

Empty receptacles of class A or B petroleum should be kept securely closed if they contain vapour inside (R. 7).

Repair or hot work should be carried out after full cleaning of petroleum and its vapour or after certified by a competent person (R. 8).

Escape of petroleum to be prevented (R. 9). No person below the age of 18 or intoxicated shall be employed (R. 10). Smoking, fires, lights, matches etc. prohibited (R. II). No person shall commit or allow other to commit any act which may lead to any accident by fire or explosion. Compliance of these rules necessary.(R. 12).Fees (R. 13).

Chapter -II : Importation of Petroleum (R. 14 to 27):

Import licence necessary save as otherwise exempted. Rules for importation by sea requires fire fighting facilities as per OISD Std. .156, plans of unloading facility, protected works within 500 mt, EIA and Risk Analysis Report, failure scenarios, LEL distances, damage distances, control measures, anchorage of ships, production of certificate and licence to the Collector of Customs, no landing without his permission, of barges or lighters and transhipment from one ship to another (R. 14 to 24.).

Rules by importation by land also specify fixed places, submission of declaration (Form-1) certificate of storage accommodation (Form-H) and the licence to the Collector of Customs and no unloading without his permission (R. 25 to 27).

Chapter - III : Transport of Petroleum (R.28 to 101) :

Part - I : General (R.28 to 32):

No leaky tank or container containing petroleum shall be tendered for transport (R. 28). Filled containers should be kept upward (R. 29). Petroleum in bulk should not be carried with passengers or combustible cargo (R. 30). Smoking, matches, lighters etc. prohibited (R. 31). Loading or unloading should not be done between the hours of sunset and sunrise unless adequate lighting and FFE are kept ready .(R. 32).

Part - II : Transport by Water (R. 33 to 50) :

Licence from the licensing authority is necessary (R. 33). Vessel should be made of iron or steel and of ample dimension (R. 34). All tanks on ships should be fitted with manholes with screw cover, air tight joints, filling and suction pipes and valves nearby to the bottom and filling and discharge through pipes and valves only. For class A petroleum,. Tanks should have vent or relief valve with wire mesh (more than 11 meshes per linear centimetre) and similar ventilators to all spaces around tank (R.35). Other provisions include exhaust outlet with spark arrester, no petrol driven engine, quick action closing valve on fuel feed pipe, suitable ventilators four or more fire extinguishers, 0.20 I113 of dry sand, non-sparking hammer, red flag, life-boats, ventilation and cleaning of holds and tanks, responsibility of master of vessel, loading/unloading through armoured hose and metal pipes electrically continuous and free from leakage, prohibition of naked lights, fire, and smoking, FFE in ready condition, no conveyance of petroleum class A with class B or C and no transport of un-tested petroleum (R. 36 to 50).

Part-111 : Coastwise Transport of Class A Petroleum not in bulk:

Rules 51 to 61 provide conditions and precautions for such transport.

Part-IV: Transport on Land by Vehicles (R. 62 to 86):

Applicable to transport of petroleum class A in more than 100 ltr (R. 62). Tank vehicles should be built, tested and maintained as provisions in 3rd schedule and of the type approved by the CC. Special safety fittings should be got approved (R.63). Class A and B petroleum can be filled up to 97% and Class C petroleum up to 98% of the gross carrying tank capacity (R.64). Tank vehicle should not be used for other purpose or carry other articles except authorised by the CC (R.65, 69). Trailers (R.66). For every mechanically propelled vehicle used to carry petroleum otherwise than class B or C, the engine should be diesel engine or internal combustion engine, exhaust pipe should be in front of the tank or load and fitted with an approved spark arrester and silencer or muffler, the engine intake or air cleaner should have flame arrester, fire resisting shield between the cab and the tank or load (i.e. rear side), fuel tank with stout steel guard and lock in the filling caps (R.70).

Electrical installation should not exceed 24 volts, wiring should be heavily insulated and adequate for maximum load, should have over current protection (fuses or automatic circuit breakers) encased in covering, sealed junction boxes, heavy duty switch to cut off battery and generators, motors and switches of flameproof type if not installed within engine compartment (R.71).

Portable fire extinguisher necessary (R.72). Vehicle should be constantly attended by a person who knows these rules (R.73). No parking on a public road or in congested area or in 9 mt. of any source of fire (R.74). Licence to transport necessary (R.75). Loading, unloading in a licensed premises only (R.76). Leaky, defective or unlicensed tank vehicle should not be filled (R.77).

Precautions against static charges include earthing and electrical continuity of pipelines, earth boss with a flexible cable and clamping device, earthing of tank, filling pipe and chassis during loading, dip-rod should not be completely raised above the liquid level during or within one minute of the completion of loading. Filling rate should not exceed 1 mt/sec until the filling pipe is completely submerged and there after it may be gradually

increased but shall not exceed 6 mt/sec at the delivery end. The CC can permit a faster loading rate in case of petroleum having higher conductivity rate (R.78).

Loading/unloading after stopping of the engine and battery isolated. Restart only after the tank and valves are securely closed (R.79). No movement of vehicle during loading/unloading (R.80). Product contamination to be avoided by selecting correct filling hose and refilling of tank of class A petroleum with any other petroleum only after draining of residual oil (R.81). Except during loading/unloading, the filling pipe, discharge faucet and dip pipe shall be kept securely closed (R.83). No loading/unloading during night hours except approved electric lights provided (R.83). No fire, light, smoking or articles to cause fire allowed on vehicle (R.84). No repair of tank unless certified by a competent responsible person (R.85). No petroleum to be carried with passengers save as provided (R. 86).

Part -V : Transport by Pipelines (R.87 to 101) :

This part is applicable to petroleum pipe lines other than those in the area of operation of natural gas and/or oil or within refineries and installations (R.87).

It provides for right of way to be acquired (R.88), approval from the CC obtained (R.89), design as per standard code or OISD Std. 141, made of suitable steel which is safe for conditions under which it is to be used, provision for expansion, contraction, prevention of excessive stresses, by pass relief valves, pressure limiting stations, automatic shut down equipment to prevent pressure rise more than 10% of the designed internal pressure, isolation valves at different locations (R.90), laying criteria (underground as far as possible) (R.91), protection against corrosion (R.92), hydraulic test (at I.I times the design internal pressure and maintaining for 24 hours) at an interval of 12 months (R.93), shut down procedure (R.94), patrolling of pipeline, communication facilities at frequent intervals along the pipeline of length more than 2 km (R.95), checking of gauges at tanks or booster pump stations at least once a year (R.96), addition, alteration only after approval from the CC (R.97) and power of the CC to require relay or repair for public safety (R.99) and of inspection and examination (R.100). The fire or major leakage in a pipeline or connected facilities should be reported immediately by the person in-charge of the pipeline to the nearest magistrate or police station and by telegram to the CC, Nagpur (R.101).

Repair and maintenance of pipeline u/r 98 includes

Inspection by an experienced engineer for assessment of work.

written work permit specifying precautions to be observed and procedure to be followed.

The section of the pipeline shall be isolated, drained and purged with inert gas or steam or kept filled with water or treatment approved by the CC.

Work of cutting or welding to be carried out by an experienced person in accordance with the permit

Only mechanical cutters shall be used for cutting the pipeline or any connection thereof unless it has been purged with an inert gas.

Separation of pipeline or valve fitted to it only after providing electrical bond between the parts, to be separated and the bond shall not be broken till the parts have been rejoined.

Reuse of the repaired section only after hydrotest as stated in rule 93.

Chapter-IV : Electric Installation (R. 102 to 115) :

Electric wiring and apparatus to be used in any place where petroleum is refined, blended, stored, loaded or unloaded, should be in accordance with this chapter (R.102).

Classification of Hazardous Area (R. 103, 104) :

Hazardous area means where (i) Petroleum having FP below 65°C or any inflammable gas or vapour capable of ignition is likely to be present or (ii) Petroleum or any inflammable liquid having FP above 65°C is likely to be refined, blended, handled or stored at or above its FP. (R. 103).

It is classified as under :

Zone	Condition
1.	Where inflammable gases / vapours are likely to be continuously present.
2.	Where they are likely to be present under normal operating conditions.
3.	Where they are likely to be present only under abnormal operating conditions to failure of rupture of equipment.

Thus zone 0 is more hazardous than zone 1 and zone 1 more hazardous than zone 2. On any question regarding applicability of these divisions, the decision of the CC shall be final (R.104).

Extent of hazardous area is laid down in the 4th Schedule. The CC can increase or reduce it based on special circumstances (R.105).

Fixed Electrical Apparatus (R.106) :

Zone **Type of Apparatus approved by CC.**
 Intrinsically safe

- (i) Intrinsically safe or a flameproof type, or
 Industrial type apparatus housed in enclosure or in a room made safe by purging or pressurising atmosphere and interlocked to stop electric supply automatically or to give warning to stop it in case of failure of the purging or pressurising system.
- (i) Non sparking apparatus or
 Apparatus permitted in Div. 1.

Fixed Electric Wiring (R.107) :

It should be effectively sealed at all joints, mechanically protected, adequately supported and consisting of approved armoured cable or metal sheathed cable or insulated cables in a galvanised conduits with approved flame proof fitting or mineral insulated cable of approved type with flameproof glands at all joints and details mentioned in the rule.

Earthing and Bonding (R. 108) :

Electric systems and equipment should be earthed with resistance of 4 ohms or a value

that ensures the safe operation of the protective device in the circuit whichever is lower.

All non-current carrying metallic parts of electric apparatus or other metallic objects should be earthed with resistance of 10 ohms.

All joints in pipelines, valves, plants, storage tanks, associated facilities and equipment for petroleum shall be electrically bonded with the resistance value between each joint not exceeding 1 ohm.

Other Provisions:

Cathodic protection as in rule 109. Electrified railway systems (overhead lines and live contact rails) are not allowed within a refinery or an installation. They should be terminated outside the area where tank wagons are loaded or unloaded. Both the rails of spur lines shall be insulated from a railway siding which is used for the loading or unloading of tank wagons (R.110). Portable electric apparatus or lamp of 25 volts, approved by the CC (Who can permit up to 55 volts) can be used in a hazardous area (R.111). Maintenance to retain characteristics (R.112). Repair and test after cutting off voltage. In zone I area, after gas-testing and certified safe by a competent person (R.113). Certificate of electric installation by a competent person (R.114). Precautions against corrosion (R.115).

Chapter -V : Storage of Petroleum requiring licence (R.116 to 135):

Licence necessary (R.116). Precautions against fire OISD Std. 117, DCP and other fire extinguishers (R.117). Experienced supervisor necessary (R.118). Cleanliness (R.119). Drainage (R.

120). Wall or fence of at least 1.8 mt. height to prevent unauthorised entry 1.2 mt height for service stations (R.121). Marking of capacity on tanks (R.123). Construction of tank by iron or steel and as per IS. Foundation of non combustible material. Air space 75% or as per Code (R.124) and protection against corrosion by protective coating or cathodic protection etc. (R.125).

Before use the tank should be tested by water pressure by a competent person. It shall not be passed through any pipe or pump ordinarily used for the conveyance of petroleum. Proforma of certificate of such testing is given u/r 126.

Tanks should be earthed by two separate connections placed at opposite extremities. The resistance to earth shall be less than 7 ohm and that of the earth plate shall be less than 2 ohm, (R.127.) Testing of earth connection necessary once in 1 year by a competent person. Its record should be maintained (R.128). No night working unless approved electric lights provided as per chapter - IV (R.129) .

Certificate of Safety is required from a competent person by the licensing authority in a proforma given u/r 130.

Prior approval of specifications and plans of premises required u/r 131. Electric motor or internal combustion engine to drive pumps for pumping petroleum should be got approved by the CC (R.132). Licence number should be marked on premises (R.133). An extract of certain rules to be displayed (R.134) .

Chapter - VI : Storage of Class - C Petroleum not requiring licence (R. 136 to 140) :

Provisions of previous chapter-V are not applicable to class-C petroleum to be stored without licence u/s 7 (R.136). It shall not be stored together with other class of petroleum except as permitted by licence (R.137). Bulk storage tank should be approved by the CC. Tanks of more than 5000 litres capacity should have dyke or be placed inside a pit to contain at least the volume of the largest tank within it. A drainage pipe with valve fitted outside shall be provided and kept closed. A distance of more than 1.5 mt. shall be kept between the edge of dyke and any protected works (R. 138).

Class-C petroleum not in bulk, if exceeds at any one time 2500 litres be stored in a storage shed of which either the door way or openings are built up to a height 30 cm above the floor or the floor shall be sunk to a depth of 30 cm., (R.139).

Prior report to store class C petroleum exceeding 5000 litres without licence shall be sent to the CC stating the location of the premises (R.140).

Chapter-VII of licences (R.141 to 161), Chap. IX of Tetraethyl lead mixtures (R.181 to 185), Chap. X of testing of petroleum (R.186 to 199), Chap. XI of notice of accident (R.200) and Chap. XII of exemption (R. 201, 202) are not discussed here. But abstract of Chap. VIII is given below.

Chapter-VIII: Refining of Petroleum (R. 162 to 180):

Project report with specifications and plans showing the arrangements of tanks, stills, furnaces, electric installations, pump houses, drainage, ETP, FFE, fencing, gates and all plants and buildings where it is proposed to refine, crack, reform or blend, petroleum (it is called refinery in this chapter) shall be sent to the CC in triplicate and a scrutiny fee of Rs. 5000 (R.162). A copy each of the approved plans shall be kept at the refinery (R.163). Alterations are also to be approved (R. 164).

Fireproof materials should be used in buildings where petroleum is to be handled (R.165). Storage tanks should be more than 90 mt. away from any still, boiler or furnace (not applicable to class C fuel tank for a boiler if the tank capacity not exceeding 24 hours stock) (R.166). Storage tanks of LPG or its filling facility should be more than 90 mt. away from any still, boiler or furnace or 30 mt. away from any storage tank, pump-house or facility for blending or filling of petroleum or from any protected work (R.167). Flare shall also be 90 mt. away from any tank, still, pumphouse or any refinery activity or LPG (R.168) .

Effluents and drainage should not cause any pollution or harmful effect on animal or vegetable life. Weekly samples shall be drawn and tested in the refinery laboratory for their oil content, acidity, alkalinity and record be maintained (for at least 6 months) and shown to an Inspector. The sewerage shall be independent of other drainage system. All drains shall have adequate capacity to prevent any flooding or backing up and of such construction to prevent leakage or be affected by the chemicals in contact. Trash racks (grills) to be fitted to prevent entry of rubbish to form a plug. Manholes, vents to release gases, fire-traps and gas traps on the upstream side of the oil interceptors and fitted with vents to liberate gas at a safer height are also to be provided (R.169).

No fire/source of heat or light capable of igniting inflammable vapours shall be allowed except in the firing spaces, stills or boilers. Smoking not permitted except in places specially approved by the CC (R.170) .

Work permit from a competent person is necessary for maintenance and repair work and entry into confined spaces, closed drain or manhole. It shall be issued for a limited period during which known conditions will remain safe and after inspection and testing by the competent person, for gases and lead content will be carried out by suitable trained persons and with standard instrument (R. 171).

For fire control a well organised and trained fire fighting service with necessary materials and fixed, mobile and portable equipment is required. OISD Std. 116 should be followed. Adequate water supply should be available at all strategic points by means of an independent ring main or grid with isolating valves. The main shall be kept constantly pressurised by two or more boosting pumps of adequate capacity and working automatically when pressure drop occurs in the main. At least one boosting pump should be independent of power supply (e.g. diesel driven). All mains shall be fitted with hydrants at convenient places not more than 30 mt. apart. If mains water supply is likely to be interrupted, static water supply of adequate capacity shall be provided. Training for personnel necessary (R. 172).

All petroleum as it leaves the stills may be pumped back to services tanks for fuel or refinery storage tank and not be stored in the vicinity of stills and boilers (R. 173) Danger from static electricity shall be prevented (R. 174). Warning notices to be displayed (R. 175). All above ground pipelines and cables shall be identified by taping, stencilling, colouring etc. Pipelines, valves, route of underground cables and route of overhead pipelines and cables crossing roads shall be protected against damage (R. 176). All plants, instruments and equipment shall be inspected, tested and records maintained (R. 177). All operators shall be trained in safe operation. Written procedures shall be established to start up, shut down, gas free plants and emergency actions. Supervisors shall ensure safe operation and safety facilities (R. 178).

An occurrence of fire shall be reported immediately to the CC and to the nearest police station (R. 179). When refinery is closed down the area within the fence shall be cleared of all petroleum having FP < 93°C as soon as possible (R. 180).

Table 1, 2 & 3 for safety distances are important for plant layout. Third schedule gives design and construction of 'Tank vehicles' for transporting petroleum in bulk.

GAS CYLINDERS RULES, 2004:

Replacing Gas Cylinders Rules, 1981, these rules of 2004 came into force from 21-9-2004.

It has 10 Chapters, 73 Rules, 6 Schedules and Forms A to G u/sch. V.

Chapter-1: Preliminary (R 1, 2):

Definitions (R. 2): Out of 43 definitions majority are scientific definitions. Therefore, they should be referred from the statute book.

Some definitions are given below.

- (1) **"Auto LPG"** means liquefied petroleum gas meant for automotive fuel conforming to specification IS : 14861;
 - (2) **"Composite Cylinder"** means a cylinder made of resin impregnated continuous filament wound over a metallic or a non-metallic liner. Composite cylinders using non-metallic liners are referred to as all-composite cylinders;
 - (3) **"Compressed Natural Gas (CNG)"** means mixtures of hydrocarbon gases and vapours, consisting mainly of Methane in gaseous form, which has been compressed for use as automotive fuel;
 - (4) **"Gas Cylinder"** or **"Cylinder"** means any closed metal container having a volume exceeding 500 ml. but not exceeding 1000 litres intended for the storage and transport of compressed gas, including any liquefied petroleum gas (LPG) container/compressed natural gas (CNG) cylinder fitted to a motor vehicle as its fuel tank but not including any other such container fitted to a special transport or undercarriage and includes a composite cylinder, however, the water capacity of cylinders used for storage of CNG, nitrogen, compressed air, etc. may exceed 1000 litres up to 2500 litres provided the diameter of such cylinder does not exceed 60 cm.;
- = **"Liquefied Petroleum Gas" (LPG)** means any material, which comprises predominantly of any of the following hydrocarbons or mixture of them with vapour pressure not exceeding 16.87 kg/cm² (gauge) at 65° C:- Propane (C₃H₈), propylene (C₃H₆), butane (C₄H₁₀), (n-butane and isobutene) and butylenes (C₄H₈);
- = **"Poisonous (toxic) gas"** means a gas which has a maximum allowable concentration in air for human respiration not exceeding 100 mg/ 3 at 15°C and 1 kgf/cm² absolute pressure;
- = **"Yield strength"** means the stress corresponding to a permanent strain of 0.2 per cent of the original gauge length in a tensile test. For practical purposes it may be taken as a stress at which elongation first occurs in the test piece without the increase of load in a tensile test.

Chapter-II : General Provisions (R. 3 to 28) :

- (1) **Cylinders** and valves should have been constructed as specified in Sch. I, test and inspection certificate should be available with information in Sch. II. Any person desiring to fabricate cylinders valves regulators and other fittings should apply in Sch. III (R.3).
- (2) **Valves** should be of the IS, type and design prescribed in R.4.
- (3) **Safety Relief Devices** fitted on cylinders should be as per IS 5903. Cylinders containing poisonous or obnoxious gases (as named) should not have such device (R.5).
- (4) **Marking on Cylinders:** as per rule 6.
- (5) **Markings of Valves:** as per R.7.
- (6) **Identification Colours** :as per IS:4379 for industrial cylinders and IS 3933 for medical cylinders. New gases and gas mixtures for which such colours are not provided in IS, shall be painted with following colours.

Type of Gas	Cylinder Shell	Band at neck
Non-flammable & non-Toxic	White	-
Non-flammable but Toxic	White	Yellow (IS 356)

Flammable & Non-toxic (other than LPG)	White	Red (IS 537)
Flammable & Toxic	White	Red & Yellow (IS 537 & 356)

Cylinders of gas mixtures should be marked "Gas mixture" or "mixed Gas" (R. 8).

- (B) **Labeling** of cylinder shall show the name of the gas and address of its filler. A warning notice should be attached to it with instructions that : (i) the colour of the cylinder will not be changed.
(ii) No other gas will be filled in it. (iii) No flammable material should be stored in or near the room of the cylinder, (iv) No oil or lubricant should be applied on valves or fittings, (v) No cylinder should be accepted whose test date is over(R.9).
1. **Restriction** ;No delivery or dispatch except to licence holder, defense forces, port or railway authorities (R.10). Restriction on filling named gases and to endanger serviceability (R.19).
 2. **Repairing** :not allowed except as otherwise provided in R.11 & 12.
 3. **Prohibition** of employment of a person below 18 years or intoxicated (R.13) and on smoking or allowing fires, lights, or flammable substances, except blow pipe flame for repairs (R. 14).
 2. **General Precautions** are that the cylinders should be maintained in good condition, oil, or lubricant not to be used on valves or fittings, no exposure to sun, high temperature of flammable/explosive material, security nut on a compressed gas cylinder and uncontrollable leaky cylinder to be removed in an open space and the filler be informed (R.15).
 3. **Special precautions** are to avoid accident due to fire or explosion and to comply with these rules and license conditions (R.I 6).
 - 13 **Competent person** should supervise operations (R.17). '
 3. **Handling & Use** include proper support, adequate strength of trolley and cradle, careful handling to avoid shock, no sliding, dropping, knocking, rolling or playing with cylinders, liquefied gas cylinders to be kept upright and work places should not be shown as storage places for the purpose of licensing (R.I 8).
 4. **Storage precautions** to be observed are :
To store in a dry, cool, under cover, well ventilated place and away from source of heat or ignition.
Room of fire resistant construction.
LPG and dissolved gas cylinders should be kept in upright position.,

Flammable and toxic gas cylinders should be kept separate by a partition wall.
Conditions to cause corrosion or fire should be avoided.
 1. Filled and empty cylinders should be segregated (R.21).

- F **Electrical installation** should be flameproof conforming to IS 2148 and effectively earthed(R.22).
- G **Impurities** in gas to cause corrosion or explosion should be avoided. The gas should be dry, moisture less than 0.02 g/m' of gas, aqueous phase cannot be separated at 0°C and free from sulphurous impurities (R.23).
- H **Cylinder subjected to fire shall** not be reused except after proper repairs and testing. Such acetylene cylinders are to be condemned or destroyed safely (R.24).
- I **Charging** after prescribed periodical re-testing only (R.26).
- J **Owner** has to keep prescribed record (R.27).
- E **Conversion** to cylinder not allowed without permission (R.28).

Chapter - III : Importation of Cylinders (R. 29 to 34):

Licence necessary (R.29). Importation by sea, land and air after permission from the Custom Collector, Central Government and Director General Civil Aviation only (R.30 to 34).

Chapter - IV : Examination & Testing (R. 35-36) :

Periodicity as per 15 or approval by the CC, testing station should have facilities set forth in Sch. IV (R.35).

Condemning of cylinders as prescribed. Any cylinder which fails to pass any test or examination or loses its tare weight by over 5% or found unsafe, shall be destroyed by flattening or cut into pieces so that it cannot be joined to form a cylinder. All markings shall be defaced and record be kept.

Service life of CNG cylinders 20 years and that of LPG containers 15 years (R.36).

Chapter-V is for dissolved Acetylene gas cylinders (R.37 to 42).

Chapter- VI is for filling, possession and their licence procedure (R.43 to 65), Chapter-VII on power to exempt (R.66) Chapter- VIII on Accidents and Inquires (R. 67 to 69) and Chapter-IX on powers of Controller of Explosives (R.70 to 73)

CALCIUM CARBIDE RULES, 1987

INTRODUCTION OBJECTIVE, DEFINITION, ENFORCEMENT, EXEMPTION ETC. IN THE CALCIUM CARBIDE RULES, 1987.

(A) Objective:

Compressed gases filled in metallic container pose potential hazard and the container explodes. Hence, the Govt. of India vide Notification No.G.S.R. 105(E) dated 28/09/1938 has declared compressed gas filled in a metallic container to be deemed to be an explosive under Petroleum Act, 1934. Subsequently, in exercise of powers vested in Section 4 of the Petroleum Act, 1934, the Govt. framed the CALCIUM CARBIDE RULES, 1987 to regulate filling, possession, transport and import of compressed gases in pressure vessels.

(B) Definitions. — In these rules, unless the context otherwise required—

- (a) "Act" means the Petroleum Act, 1934 (30 of 1934);
- (b) "Carbide" means Calcium Carbide;
- (c) "Chief Controller" means the Chief Controller of Explosives;
- (d) "Conservator of the Port" includes any person acting under the authority of the officer or body of persons appointed to be Conservator of a Port under section 7 of the Indian Ports Act, 1908 (15 of 1908);
- (e) "Controller of Explosives" includes a Joint Chief Controller of Explosives, Deputy Chief Controller of Explosives and Deputy Controller of Explosives;
- (f) "District Authority" means—
- (a) a Commissioner of Police or Deputy Commissioner of Police in any town having a Commissioner of Police; and
- (b) in any other place, the District Magistrate;
- (g) "District Magistrate" includes an Additional District Magistrate and in the State of Punjab and Haryana and in the Karaikal, Mahe and Yanam areas of the Union territory of Pondicherry, also includes a Sub-divisional Magistrate;
- (h) "Form" means a Form as given in the Second Schedule;
- (i) "Inspector" means an Officer authorised by the Central Government under Subsection (1) of Section 13 of the Act.
- (j) "Prescribed receptacle" means a receptacle which—
- (i) is made of steel or any other material approved by the Chief Controller but has no copper in its composition;
- (ii) is hermetically closed at all times except when its contents are being placed within it or withdrawn from it; and
- (iii) bears a stamped embossed, painted or printed warning exhibiting in conspicuous characters the words "Calcium Carbide"—
- Dangerous if not kept dry" and the following caution :-
- "The contents of this package are liable, if brought into contact with moisture, to give off a highly inflammable gas" :
- Provided that of the containers of carbide imported, the warning shall be according to relevant international Code.
- (k) "Sampling Officer" means an officer authorised by the Central Government under Sub-section (1) of section 14 of the Act.

(C) Enforcement :

Under the Calcium Carbide Rules, the following enforcement are provided :-

- 1) Importation of carbide
- 2) Transportation of carbide.
- 3) Storage of carbide

Authority in enforcement is Chief Controller of Explosives or any other officer authorized by him. The District Authority is required to take penal action for infringement of rules reported to him by Chief Controller of Explosives.

(D) Exemptions:

Repeal and savings _

- (1) The Carbide of Calcium Rules, 1937 are hereby repealed.
- (2) Notwithstanding such repeal -
 - (i) all licenses or duplicates granted or renewed under the said rules and all fees imposed or levied shall be deemed to have been granted, renewed, imposed or levied as the case may be,

under the corresponding provisions of these rules.

(ii) all approvals given and all powers conferred by or under any notification or rule shall, so far as they are consistent with the provisions of the Act and these rules, be deemed to have been given or conferred by or under these rules.

FORMS OF LICENCES/APPROVAL, PURPOSE AND LICENCING/APPROVAL AUTHORITY

S.No	Form of licence	Purpose for which granted	Licensing authority
1.	Form III	To import & store carbide .	Chief Controller of Explosives
2.	Form IV	To import & store carbide in a storage shed forming part of an acetylene plant.	Chief Controller of Explosives

PROCEDURE ADOPTED FOR GRANT, RENEWAL, AMENDMENT ETC.OF VARIOUS TYPES OF LICENCES UNDER CALCIUM CARBIDE RULES, 1987 (PRIOR APPROVAL).

(I) Any person desiring to store Carbide is required to obtain a prior approval from Chief Controller of Explosives by submitting following documents.

(a) DOCUMENTS TO BE SUBMITTED FOR PRIOR APPROVAL :

i) Application in Form I.

ii) A Copy of the drawing drawn to scale as per specification & rules of the premises to be licensed.

iii) Details regarding the surrounding i.e. nearby roads, buildings, etc., within 50M from the proposed site.

iv) Scrutiny fee of Rs.10/- drawn on Nationalised bank in favour of Chief Controller of Explosives payable at Nagpur.

DEPARTMENTAL ACTION:

On scrutiny of the documents and if found in order prior approval will be given.

If however any discrepancy is being noticed, the same will be communicated to the party and after rectification of the defects; action towards approval will be initiated.

(b) GRANT OF LICENCE:

After completion of the proposed premises as per approved plan, the applicant is required to submit to Chief Controller of Explosives the following documents :-

1) Application in form I.

2) 4 copies of site and layout drawing as approved.

3) Licence fee of Rs. _____/-

DEPARTMENTAL ACTION :

The documents submitted by the licensee, if found in order licence in form III /IV is granted and sent to the Circle/ Sub-circle office having jurisdiction for inspection of the facilities. If on inspection the facilities are found in order, the inspecting officer endorses the licence and sends to the licensee. In case of minor deviations he points it out to the licensee and on receipt of compliance further action of endorsement of licence is taken. In case major deviations, the matter is referred back to the Chief Controller of Explosives for further action as desired fit. In case

deviations are of such nature which endangers safety and which cannot be complied by the licensee, the licence is revoked.

(II) RENEWAL OF THE LICENCE:

The applicant is required to submit the following documents for renewal of licence in form III & IV to the Jt.Chief Controller of Explosives of respective Circle Offices at least 30 days before the date on which the licence expires. The licence is renewable for a maximum period of 3 years.

- 1) An application in form I duly filled and signed.
- 2) The original licence.
- 3) Demand draft drawn in favour of Jt. Chief Controller of Explosives of respective Circle Office for amendment.

DEPARTMENTAL ACTION

(1) The licence may be renewed by the licensing authority empowered to grant such a licence:

Provided that a licence which has been granted by the Chief Controller may be renewed without alteration by the Controller of Explosives duly authorised by the Chief Controller.

(2) Every licence granted under these rules may be renewable for three calendar years where three has been no contravention of the Act or of the rules framed there under or of any condition of the licence so renewed.

(3) Where a licence which has been renewed for more than one year is surrendered before its expiry, the renewal fee paid for the unexpired portion of the licence shall be refunded to the licensee provided that no refund of renewal fee shall be made for any calendar year during which

- (a) the licensing authority receives the renewed licence for surrender, or
- (b) any carbide is received or stored on the authority of the licence.

(4) Every application under sub-rule (2) shall be made in Form I and shall be accompanied by the licence which is to be renewed together with approved plans attached to the licence and the renewal fee.

(5) Every application for renewal of the licence shall be made so as to reach the licensing authority at least 30 days before the date on which it expires, and if the application is so made, the licence shall be deemed to be in force until such date as the licensing authority renews the licence or until an intimation that the renewal of the licence is refused has been communicated

to the applicant.

(6) Where the renewal of the licence is refused, fee paid for the renewal shall be refunded to the licensee after deducting therefrom the proportionate fee for the period beginning from the date from which the licence was to be renewed upto the date on which renewal thereof is refused.

(7) The same fee shall be charged for the renewal of the licence for each calendar year as for the grant thereof :

Provided that :-

(i) if the application with the accompaniments required under sub-rule (4) is not received within the time specified in sub-rule (5), the licence shall be renewed only on payment of a fee amounting to twice the fee ordinarily payable ;

(ii) if such an application with accompaniments is received by the licensing authority after the date of expiry but not later than 30 days from the date of expiry, the licence may without prejudice to any other action that may be

taken in this behalf, be renewed on payment of twice the fee ordinarily payable :

Provided further that in the case of an application for the renewal of the licence for a period of more than one calendar year at a time, the fee prescribed under clause (i) or (ii) of the first proviso, if payable, shall be paid only for the first calendar year of the renewal.

III) AMENDMENT OF LICENCE

The applicant is required to submit the following documents for amendment of licence in form III & IV to the Jt. Chief Controller of Explosives of respective Circle Offices at least 30 days before the date on which the licence expires.

- 1) An application in form I duly filled and signed.
- 2) The original licence.
- 3) Demand draft drawn in favour of Jt. Chief Controller of Explosives of respective Circle Office for amendment.

DEPARTMENTAL ACTION

On scrutiny of the documents submitted by the licensee and the same is found in order action towards amendment of the licence is initiated. If, however, any discrepancy is noticed the same is communicated to the licensee and after compliance of the same, further action towards amendment of licence is taken.

Question ?

1. Was it useful in your work activities connected to this department?
2. Are you a frequent visitor to this manual site?
3. Are you a frequent visitor to the offices of this department.
4. What are your specific suggestion to improve it? Give suggestions with reasons.
5. Has this chapter helped you in filing/making proper documents or will you think that you may still face difficulty in filling/making proper forms and documents after reading this chapter?
6. Do you have specific suggestions to make it more user friendly?
7. Do you think of unnecessary element in this chapter which can be avoided/deleted ?
8. Do you have any suggestion (s) for change in Legislation ? Give details with

reasons.

9. Give brief details of your organization/yourself through the suggestion form which can be had by clicking the feedback button.

FORM – II

STORAGE OF CALCIUM CARBIDE IN A GODOWN

(Not forming part of Acetylene Generation)

For storage exceeding 200 kg and not exceeding 500 kg, licence is issued by the District Authority

The related matter is available in the hard copy of the manual which can be had by placing an order (by letter or through e-mail) to the following address Dy. Chief Controller of Explosives Testing Station

Amravati Road, Gondkhairy

NAGPUR 440 023

E-mail address: ccoe.ngp@nag.mah.nic.in

FORM – III

STORAGE OF CALCIUM CARBIDE IN A GODOWN

(Not forming part of Acetylene Generation)

For storage exceeding 500 kg, licence is issued by the Circle office

Applicants Action

Any person desiring to store Carbide is required to obtain a prior approval from Chief Controller of Explosives by submitting following documents.

(a) Documents to be submitted for prior approval :

v) Application in Form I.

vi) A Copy of the drawing drawn to scale as per specification & rules of the premises to be licensed.

vii) Details regarding the surrounding i.e. nearby roads, buildings, etc., within 50M from the proposed site.

viii) Scrutiny fee of Rs.10/- drawn on Nationalised bank in favour of Chief Controller of Explosives payable at Nagpur.

DEPARTMENTAL ACTION:

On scrutiny of the documents and if found in order prior approval will be given.

If however any discrepancy is being noticed, the same will be communicated to the party and after rectification of the defects; action towards approval will be initiated.

(b) GRANT OF LICENCE:

After completion of the proposed premises as per approved plan, the applicant is required to submit to Chief Controller of Explosives the following documents :-

1) Application in form I.

4) 4 copies of site and layout drawing as approved.

5) Licence fee of Rs. _____/-

DEPARTMENTAL ACTION :

The documents submitted by the licensee, if found in order licence in form III /IV is granted and sent to the Circle/ Sub-circle office having jurisdiction for inspection of the facilities. If on inspection the facilities are found in order, the inspecting officer endorses the licence and sends

to the licensee. In case of minor deviations he points it out to the licensee and on receipt of compliance further action of endorsement of licence is taken. In case major deviations, the matter is referred back to the Chief Controller of Explosives for further action as desired fit. In case

deviations are of such nature which endangers safety and which cannot be complied by the licensee, the licence is revoked.

(II) RENEWAL OF THE LICENCE:

The applicant is required to submit the following documents for renewal of licence in form III & IV to the Jt. Chief Controller of Explosives of respective Circle Offices at least 30 days before the date on which the licence expires. The licence is renewable for a maximum period of 3 years.

- 1) An application in form I duly filled and signed.
- 2) The original licence.
- 3) Demand draft drawn in favour of Jt. Chief Controller of Explosives of respective Circle Office for amendment.

DEPARTMENTAL ACTION

(4) The licence may be renewed by the licensing authority empowered to grant such a licence: Provided that a licence which has been granted by the Chief Controller may be renewed without alteration by the Controller of Explosives duly authorised by the Chief Controller.

(5) Every licence granted under these rules may be renewable for three calendar years where there has been no contravention of the Act or of the rules framed thereunder or of any condition of the licence so renewed.

(6) Where a licence which has been renewed for more than one year is surrendered before its expiry, the renewal fee paid for the unexpired portion of the licence shall be refunded to the licensee provided that no refund of renewal fee shall be made for any calendar year during which

- (c) the licensing authority receives the renewed licence for surrender, or
- (d) any carbide is received or stored on the authority of the licence.

(7) Every application under sub-rule (2) shall be made in Form I and shall be accompanied by the licence which is to be renewed together with approved plans attached to the licence and the renewal fee.

(8) Every application for renewal of the licence shall be made so as to reach the licensing authority at least 30 days before the date on which it expires, and if the application is so made, the licence shall be deemed to be in force until such date as the licensing authority renews the licence or until an intimation that the renewal of the licence is refused has been communicated to the applicant.

(9) Where the renewal of the licence is refused, fee paid for the renewal shall be refunded to the licensee after deducting therefrom the proportionate fee for the period beginning from the date from which the licence was to be renewed up to the date on which renewal thereof is refused.

(10) The same fee shall be charged for the renewal of the licence for each calendar year as for

the grant thereof :

Provided that :-

(iii) if the application with the accompaniments required under sub-rule (4) is not received within the time specified in sub-rule (5), the licence shall be renewed only on payment of a fee amounting to twice the fee ordinarily payable ;

(iv) if such an application with accompaniments is received by the licensing authority after the date of expiry but not later than 30 days from the date of expiry, the licence may without prejudice to any other action that may be

taken in this behalf, be renewed on payment of twice the fee ordinarily payable :

Provided further that in the case of an application for the renewal of the licence for a period of more than one calendar year at a time, the fee prescribed

under clause (i) or (ii) of the first proviso, if payable, shall be paid only for the first calendar year of the renewal.

III) AMENDMENT OF LICENCE

The applicant is required to submit the following documents for amendment of licence in form III & IV to the Jt. Chief Controller of Explosives of respective Circle Offices at least 30 days before the date on which the licence expires.

- 1) An application in form I duly filled and signed.
- 2) The original licence.
- 4) Demand draft drawn in favour of Jt. Chief Controller of Explosives of respective Circle Office for amendment.

DEPARTMENTAL ACTION

On scrutiny of the documents submitted by the licensee and the same is found in order action towards amendment of the licence is initiated. If, however, any discrepancy is noticed the same is communicated to the licensee and after compliance of the same, further action towards amendment of licence is taken.

Question?

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8. Do you have any suggestion (s) for change in Legislation? Give details with reasons.
9. Give brief details of your organization/yourself through the suggestion form which can be had by clicking the feedback button.

VARIOUS MODEL DRAWINGS WILL BE PROVIDED AT WEB-SITE

FORM – IV

STORAGE OF CALCIUM CARBIDE ATTACHED TO ACETYLENE GENERATOR

For storage of calcium carbide attached to acetylene generator, licence is issued by the Chief Controller of explosives, Nagpur.

The related matter is available in the hard copy of the manual which can be had by placing an order (by letter or through e-mail) to the following address

Dy. Chief Controller of Explosives

Testing Station

Amravati Road, Gondkhairy

NAGPUR 440 023

E-mail address: ccoe.ngp@nag.mah.nic.in

VARIOUS MODEL DRAWINGS WILL BE PROVIDED AT WEB-SITE

INSECTICIDES ACT, 1968:

This Act (46 of 1968) was enacted on 2-9-1968. It came into force from 1-3-1971 (Sec. 4, 7, 8, & 36) and 1-8-1971 (remaining part). It extends to the whole of India. It has 38 sections and a schedule listing insecticides amended from time to time.

It is an Act to regulate the import, manufacture, sale, transport, distribution and use of insecticides with a view to prevent risk to human beings or animals and matters connected therewith.

Provisions are made for the Central Insecticides Board, its committees, procedure and officers (S.4 to 8), Registration of insecticides, appeal and revision (S.9 to 11), Licensing (S.12 to 15), Central Insecticides Laboratory (S.16), Prohibition of import and manufacture (S.17), Sale, stock, distribute, transport, use etc. (S.18) Insecticide Analysis (S.19), Inspectors (S.20 to 23). Report of Insecticides Analyst (S.24), Confiscation of stock (S.25) Notice of poisoning (S.26), Prohibition of sale etc. for reasons of public safety (S.27), Cancellation of registration (S.28), Offences & punishment (S.29), Defences which may or may not be allowed (S.30), Cognisance & trial (S.31), Special courts (S. 31A), Offences by companies (S.33), Power of Central Govt. and State Govt. to make rules (S.36 & 37) and Exemption (S.38).

By various notifications from 1989 to 1996, many insecticides are banned or restricted in India, e.g. DDT, chlorobenzilate, BBP, PCNB, Toxaphene, Aldrin, Chlordane Heptachlor, Titration, Nitrofen, Benzene Hexachloride etc.

Insecticides Rules 1971 :

These rules came into force on 30-10-1971. They have 9 chapters, 46 rules, 2 schedules and 22 forms. Chapter-1 gives definitions.

'Tests' means any insects, rodents, fungi, weeds and other forms of plant or animal life not useful to human beings [R. 2 (h)]

'Laboratory' means the central insecticides laboratory. [(R. 2(e))].

Commercial Pest Control Operation means any application or dispersion of insecticide(s) including fumigants in household or public or private premises or land and includes pest control operations in the field including aerial applications for commercial

purpose but excludes private use.

Pest Control Operator means any person who undertakes pest control operations and includes the person or the firm or the company or the organisation under whose control such a person(s) is operating.

Chapter-n is regarding the Board and its functions (R.3 to 5), Chapter-111 regarding registration of insecticides (R.6 to 8), Chapter-IV for grant of licences (R.9 to 15), Chapter -V for packing & labelling (R.16 to 20), Chapter-VI for insecticides analysts and Insecticides Inspectors (R.21 to 34), Chapter-VII for transport & storage (R. 35 to 36), Chapter-VIII for protective clothing, equipment and other facilities for workers (R.37 to 44) and Chapter-IX miscellaneous (R.45 to 46).

The first schedule prescribes 22 forms of which the last one (for medical examination of workers) is reproduced in this part. Second schedule u/r 25 prescribes fees for testing or analysing the samples of insecticides.

Insecticides cannot be manufactured, stored or handled with any consumable article (R IO-Q).

Packing and Labelling (R. 16 to 20):

Every container package should be of the approved type. A leaflet should be put inside containing particulars about the plant disease, insects, animals or weeds for which it is to be applied, manner of application, symptoms of poisoning, safety measures and first-aid treatment necessary, antidote, decontamination or safe disposal procedure, storage and handling precautions, effect on skin, nose eye, throat etc. and common name of the insecticide (R. 18).

In labelling, warning and cautionary statement should be included.

1. For category-I (Extremely toxic) insecticides, the symbol of a skull and cross-bones and the word 'POISON' should be printed in red. Statement "Keep out of the reach of children and if swallowed or if symptoms of poisoning occur call physician immediately" should be added.
2. For category II (Highly toxic) insecticides, the word 'TOISON' in red and statement "Keep out of the reach of children" should be printed.
3. For category III (moderately toxic) the word 'DANGER' arid statement "Keep out of the reach of children".
4. For category IV (Slightly toxic) the word 'CAUTION' should be mentioned.

Category classification is as under –

Classification	Oral	Dermal route (dermal)	Colour of band on the
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insecticides	toxicity LD ₅₀ test animal	mg /kg of	toxicity LD ₅₀ mg/kg of test animal.	label.
Extremely toxic	1 - 50		1-200	Bright red
Highly toxic	51 - 500		201-2000	Bright yellow
Moderately toxic	501-5000		2001-20000	Bright blue
Slightly toxic	> 5000		> 20000	Bright Green

See Part 24 of Chapter-23 for pesticide industry.

Transport and Storage (R. 35, 36) :

Packages for rail transport shall be packed as per Red Tariff by Railways. No transportation or storage in such a way that insecticides may come in contact with food stuffs or animal feeds. If it is mixed up due to any damage to packages during transport or storage, it shall be examined by competent authorities notified by the State Govt. and safely disposed. If any leak occurs, the transport agency or the storage owner shall take urgent measures to prevent poisoning and pollution of soil, water etc.

The packages of insecticides should be stored in separate rooms or almirahs under lock and key. Such rooms shall be well built, dry, well-lit, ventilated and of sufficient dimension.

Protective Equipment and other Facilities for Workers (R. 37 to 44) :

All persons engaged in handling, dealing or otherwise coming in contact with insecticides during manufacture/formulation or spraying shall be medically examined before employment and then periodically once in a quarter by a qualified doctor who is aware of risks of pesticides and report be kept in Form XXII given below. For persons working with organophosphorous or carbamate compound, their blood cholinesterase level shall be measured monthly. The blood residue estimation shall be done yearly of persons working with organochlorine compound. Any person showing symptoms of poisoning shall be immediately examined and given proper treatment.

First-aid treatment shall always be given before the physician is called. IS 4015 part I

and II shall be followed in addition to any other books on the subject. The workers shall be educated regarding effects of poisoning and the first-aid treatment to be given.

Protective clothing which shall be washable (to remove toxic exposure) and not allowing penetration by insecticide shall be given to workers. A complete suit shall consist (a) Protective outer garment/overalls/ hood/hat, (b) rubber gloves extending half-way up to forearm (c) dust-proof goggles and (d) boots.

For prevention of inhalation of toxic dusts, vapours or gases, the workers shall use (a) chemical cartridge respirator, (b) supplied air respirator. (c) Demand flow type respirator (d) full or half face gas mask with canister as per requirement. In no case the exposure in air should exceed the maximum permissible level.

Sufficient stocks of first-aid tools, equipment, antidotes, medicines etc. should be kept.

The workers shall be trained for safety precautions and use of safety equipment.

The packages and surplus materials shall be safely washed and disposed to prevent pollution. The packages shall not be left outside to prevent re-use. They shall be broken and buried away from habitation.

Aerial spraying precautions are given 'in rule 43.

Form XXII : Form of Medical Examination

For the Year.....

Serial No.
.....

Name Age.....

Father's/Husband's Name Full Address

Sex Identification mark

Date of appointment Occupation : (Please specify the nature of duty)

PAST HIST

Illness	Poisoning	Allergy	Exposure to Pesticides (Compound)	No. of years / reasons	Remarks, if any
(1)	(2)	(3)	(4)	(5)	(6)

FAMILY HISTORY

Allergy	Psychological disorders	Gaemorhagic disorder
(1)	(2)	(3)

PERSONAL HISTORY

Smoking	Alcohol	Other addiction
(1)	(2)	(3)

OBSERVATIONS

Medical Examination	Pre-employment examination	End of 1 st quarter i.e. after 3 mont	Aft er 2 nd quarter i.e. afte r 6 mo	After 3 rd quarter i.e. after 9 mont	End of the year	Remarks

		hs	nth s	hs		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

I	GENERAL EXAMINATION		
	General body limit	Anaemia	Fatigability
	Weight	Dehydration	Sweating
	Pulses	Jaundice	Sleep
	Blood pressure	Skin condition	Urination
	Respiration	Temperature	
II	GASTRO INTESTINAL		
	Nausea	Taste	Liver
	Vomiting	Pain in abdomen	Spleen
	Appetite	Bowel movement	
III	CARDIO RESPIRATORY		
	Nasal discharge	Tightness of chest	Heart
	Wheeze	Dyspnoea	Cyanosis
	Cough	Palpitation	Tachycardia
	Expectoration		
IV	NEURO MUSCULAR		

	Headache	Tremors	Unconsciousness
	Dizziness	Convulsion	Deep reflexes
	Irritability	Paranesthesia	Superficial reflexes
	Pulse	Hallucination	Co-ordination

	Twitchings		
V	EYE		
	Pupil	Double vision	
	Lachrymation	Clumped vision	
V	PSYCHOLOGICAL		
I	Temperament	Judgement	Nervousness
V	KIDNEY		
I	Kidney condition		
V	INVESTIGATION		
I	Blood Hb %	Serum Bilirubin	Urine microscopic
I	Blood B.C.	Urine routine examination	X-ray of chest
I	* Serum cholinesterase		

*Serum cholinesterase level should be measured in monthly intervals in case of organophosphorus/carbamate group of insecticides. General remarks of the Doctor in the light of the above examination;

Advice	(
given to	1	:	the Patent:
)		the
	(Employer
	2	:	:
)		

Steps taken by the Employer as per Doctor's advice

Signature/Thumb impression of:

1. Doctor:
2. Employee:
3. Employer/manufacturer:
4. Licensing officer at the time of inspection.

N.B.: In organochlorine group of insecticides the blood residue estimation should be done once a year

RADIATION PROTECTION RULES, 1971:

The Central Government u/s 30 of the Atomic Energy Act, 1962, made these rules applicable from 30-10-1971, to the whole of India. A summary of these 56 rules is, given below:

Section-2 defines adequate protection, competent authority, contamination, employer, radiation worker, operational limits, radiation installation, radiation surveillance, Radiological Safety Officer, sealed and unsealed source, source housing, useful beam etc.

Other provisions are as under :

- (5) Radioactive material is to be handled as per terms and conditions of a licence.
- (6) Luminous compounds on watches, instruments etc. are exempted.
- (7) No person below the age of 18 years can be employed as a radiation worker.
- (8) Licence can be issued on request under the Act, if the equipment, facilities and work practices afford adequate protection and if the incharge person has adequate qualification to direct the work.

The validity of licence is 3 years. It can be revoked, modified or withdrawn by the competent authority after giving a show cause notice and an opportunity to make a representation.

Radioactive material shall be used only for the purpose, location and quantities specified in the licence.

- (6) Radiological Safety Officer shall be designated by the employer (himself or an employee) with the approval of competent authority to perform following duties and

functions (R. 13) :

Steps to ensure that operational limits are not exceeded.

To instruct the radiation workers about hazards of radiation and safety measures to minimise exposure to radiation and contamination.

To carry out leakage tests on sealed sources as specified in rule 34.

To regulate the safe movement of radioactive materials including waste.

could lead to radiation hazards.

To make available necessary reports and remedial measures to his employer.

To ensure the safe disposal of radioactive wastes in a manner approved by the competent authority.

1. Hazardous situation is to be reported to the competent authority.

2. Radiation surveillance procedure notified by the competent authority is to be followed by the employer. This may include (R. 15) :

Design, construction, operation and use as per specifications and prior approval of the competent authority.

Working conditions, monitoring and personal protective equipment.

Personal monitoring of radiation workers.

Medical examinations of the radiation workers as per rule 19 or 20.

Records of radiation and radioactivity level measurements, personal monitoring and medical examinations stipulated by the competent authority.

Any other procedure specified by the competent authority.

3. Prior approval before any modification to the plant or any change in working conditions.

4. Radiation symbol to be displayed at workplaces and on containers containing radioactive materials. Its colour shall be as may be specified by the competent authority.

5. History records of radiation workers to be maintained in a form specified by the competent authority.

6. Pre and periodical yearly medical examinations of radiation workers, of blood, excreta, skin, hands, fingers, finger nails, eyes and chest (X-ray).

The frequency* and types of above examinations may be modified by the competent authority where necessary (Rule 19 & 20).

Complete records of above examinations shall be maintained. Its excerpts shall be sent to the competent authority in the form specified by him. The competent authority shall preserve such records for the life time of the worker or for 20 years after he ceases to do work of radiation, whichever is shorter.

7. The competent authority may specify steps to reduce the excessive exposure and the employer shall comply with them and also provide the exposed worker an alternative work not involving radiation exposure. If such worker is declared fit to resume radiation work, his employer shall permit him to do that work. Then his work shall be planned by the competent authority.

8. The competent authority or a person duly authorised by him has wide power to inspect new, modified or running radiation installation, work being conducted, protective device, transport etc. and make tests, measurements and other things to verify adequate protection.

Power includes power to seal or seize radioactive material or equipment and give directions for compliance.

9. Registers of particulars of sealed and unsealed sources shall be maintained (Rule 33).

10. In case of leakage of a sealed source, the Radiological Safety Officer shall place that leaking source in a properly shielded leak-proof container with care to prevent spread of contamination, act to safeguard the workers and others, vacate affected area, clean

up contamination if any, and inform the employer.

9. Lost or missed radioactive material shall be searched and the competent authority shall be informed immediately.
10. Telegamma sources shall be covered with appropriate source housing. In case of power failure, the useful beam should be automatically cut off. Manual device to interrupt the useful beam is required (Rule 37 to 39).
11. In medical institutions where radioactive material remains on or inside the body of the patient, separate rooms and wards for the treatment shall be provided.
12. Where gamma radiography is done, the area shall be cordoned off to control entry into it of other persons.
13. Sealed source devices such as static eliminators, thickness, density or level gauges, package monitors shall be provided with efficient cover plate, shutter or shield capable of being easily operateable to attenuate the useful beam.
14. Interlock switches in radiation installations should be of the fail-safe type.
15. Unsealed sources shall be kept in securely closed container and properly labelled.

Radiological Safety Officer has to take more precautions where unsealed sources are handled such as safe working methods, facilities to minimise radiation level and airborne contamination, forbidding wrong working habits (mouth operated devices, open wounds, smoking, eating, drinking, application of cosmetics etc.), appropriate protective clothing, safe use of PPE and checking contamination on it and safe collection of radioactive wastes (R.44 & 45).

Ventilating systems should be enclosed with ducts and filters to avoid spread of any airborne contamination.

In case of spillage, steps to arrange decontamination of affected personnel and areas, steps to prevent further spread of contamination and informing the employer.

Other provisions for experiments on animals, luminising compounds, approved procedure for mining, processing etc., disposal of animal carcasses, autopsies of cadavers, licence, personnel monitoring and power to exempt are given in rules 48 to 56.

Notes on Regulatory Aspects

Radioisotopes and radiation have found a variety of applications in industries, such as non-destructive testing, level indication system, thickness gauges, density gauges, etc. There are over 1200 industrial institutions in India, employing radiation source, in one form or the other. It is a well known fact, that ionising radiation such as X-rays, gamma rays, beta rays, etc. are deleterious to health. It is therefore, essential to minimise radiation exposures to the user as well as to the public. If the use of these radiation sources is not adequately controlled, it is likely to result in unnecessary radiation exposures to individuals. However, if necessary safety precautions, as per the stipulated norms, are observed by the user, the ill-effects of radiation can be minimised, thus, rendering the application quite safe for the user.

The prospective user should approach the Competent Authority for obtaining permission to handle radiation sources. He must give the requisite details in the prescribed application form regarding the type of source, its activity, proposed use, name of the user, his qualification and experience in the handling of radiation sources, etc.

A precommissioning inspection of the installation is properly done by members of Radiation Protection Services Division (RPSD), Bhabha Atomic Research Centre (BARC),

Bombay-400 085, in order to confirm the above.

A separate storage enclosure should be available at the site for safe storage of the source housings, prior to their installation and also to store, spare source housings and decommissioned gauges awaiting ultimate disposal, if any. The source storage should be so chosen, that it would be free -from potential fire

hazard, flooding, water logging, pilferage etc. Advice on the nature of storage facility required may be obtained from the Competent Authority.

All the persons who are involved in the operation and maintenance of these gauges, should have adequate knowledge' in the design, construction and principle of the gauges and they should have undergone appropriate training on the radiation safety aspects. Further, if deemed necessary, all those persons who are involved in the maintenance of radioisotope gauge may have to be monitored regularly, by the personal monitoring service, run by RPSD, in order to, ensure that dose limits are not exceeded. The decision regarding the need for the persons to be monitored by the personnel monitoring service will be taken after the precommissioning inspection of the installation by members of RSPD.

A GM type radiation survey meter (model MR 121) manufactured by the Electronic Corporation of India Ltd. (ECIL), Hyderabad or its equivalent should be available with the user of the nucleonic gauges, for regular monitoring of radiation levels around the gauge installation and also for deciding the area to be cordoned off around the source, if an emergency arises.

The user should designate a Radiological Safety Officer, who possesses a certificate in radiation safety which is recognised by RPSD and who has received instructions in the Radiation Protection, Rules 1971 and all notifications and orders issued there under, relevant to the proposed application of radiation and who has demonstrated competence in the handling of radiation exposure devices and related instruments and radiation survey meters, which would be used in the course of this assignment. Formal approval should be obtained by the user, from the Competent Authority, for the appointment of Radiological Safety Officer.

The requisite authorisation for the procurement of nucleonic gauges from any Indian manufacturer or the requisite 'No Objection Certificate' for the import of nucleonic gauges of specific type from abroad will be issued by the Competent Authority after the fulfilment of the above requirements by the applicant. All these regulatory controls have been evolved, in order to ensure safety to persons and property, during the use of these gauges.

STATIC AND MOBILE (UNFIRED) PRESSURE VESSELS RULES, 1981:

U/S.5 and 7 of the Explosives Act 1884, the' Central Government notified these rules w.e.f. 5-2-1981. They have 8 chapters, 69 rules, 3 appendices, 2 schedule and 5 forms.

The rules were amended in 1993, 2000 and 2002. Chapter-1: Preliminary (R.I to IIA):

Definitions: Out of (a) to (z) definitions, majority are scientific and therefore they are reproduced below.

6. "Permanent Gas" means a gas whose critical temperature is lower than 10°C.
7. "Liquefiable Gas" means any gas that may be liquefied by pressure above 0°C, but will be completely vaporised when in equilibrium with normal atmospheric pressure (760 mm HG) at 30°C;
8. Cryogenic liquid means liquid form of permanent gas having normal boiling point

below minus 165° C.

9. Critical temperature means the temperature above which gas cannot be liquefied by the application of pressure alone.
10. "Compressed gas" means any permanent gas, liquefiable gas or gas dissolved in liquid or cryogenic liquid under pressure or gas mixture, which in a closed pressure vessel exercises a pressure exceeding one atmosphere (gauge) at the maximum working temperature and includes Hydrogen fluoride. In case of vessels without insulation or refrigeration, the maximum working temperature shall be considered as 55°C.
11. "Design" includes drawings, calculation, specifications, models, codes and all other details necessary for the complete description of the pressure vessel and its construction;
12. LPG i.e. Liquefied Petroleum Gas includes hydrocarbon gases in liquefied state at normal ambient temperature by the application of pressure, and conforming to the IS : 4576.
13. Dispenser means an equipment installed in LPG dispensing station, meant for dispensing LPG as automotive fuel to motor vehicles;
14. "Design pressure" means the pressure used in the design calculations of a vessel for the purpose of determining the minimum thickness of the various component parts of the vessel;
15. "Filling density" means the ratio of weight of liquefiable gas allowed in a pressure vessel to the weight of water that the vessel will hold at 15°C;
16. "Flammable compressed Gas" means gas 13 percent or less of which when mixed with air forms a flammable mixture or whose flammable range with-air is greater than 12 percent;
17. "Gas Free" in relation to a pressure vessel means the concentration of flammable or toxic gases or both if such pressure vessel is within the safe limits specified for persons to enter and carry out hot work in such vessels;
18. "Pressure Vessel or Vessel" means any closed metal container of whatever shape, intended for the storage and transport of any compressed gas which is subjected to internal pressure and whose water capacity exceeds 1000 litres and includes inter connecting parts and components thereof up

to the first point of connection to the connected piping and fittings but does not include containers wherein steam or other vapour is or is intended to be generated, or water or other liquid is or is intended to be heated by the application of fire or the product of combustion or by electrical means, heat exchangers, evaporators, air receivers, steam-type digesters, steam-type sterilisers, autoclave, reactors, calorifiers, pressure piping components such as separators or strainers and vessels containing a liquid under a blanket of compressed inert gas.

1. "Safety relief device" means an automatic pressure relieving device actuated by the pressure upstream of the valve and characterised by fully opened pop action, intended to prevent the rupture of a pressure vessel under certain conditions of exposure;
2. "Source of ignition" means naked lights, fires, exposed incandescent materials, electric welding arcs, lamps other than those specially approved for use in flammable atmosphere, or a spark or flame produced by any means;
3. "Water Capacity" means capacity in litres of the pressure vessel when completely filled with water at 15°C.

The vessel should be manufactured as per IS 2825 or code specified u/r 12 and approved by the CC, otherwise it cannot be filled or transported. Any person seeking to manufacture such vessels should apply to the CC in Appendix. I with a scrutiny fee of Rs. 500 (R.4).

Storage, delivery and dispatch as per licence only (R.5). Repair after approval from CC and as per IS-2825 (R.6). Before using or refilling any vessel for flammable gases, purging by an inert gas or by the gas to be filled with safe venting is necessary (R.7). Prohibition of employing a person under 18 years or intoxication and smoking or allowing source of ignition or any flammable gas (R.8 & 9). These rules are to be complied with and precautions to prevent accident are necessary (R.10). Supervision is also necessary (R. 9A).

Procedure for paying fees is given u/r II and that for applying recognition as competent person or Inspector in Appendix III to the CC is -given u/ r II-A.

Chapter-II : Construction and Fittings of Pressure Vessels (R. 12 to 20):

Design Code - For design, construction and testing IS:2825 or other code approved by CC. Test and Inspection certificate issued by the manufacturer and countersigned by an Inspector shall be sent to CC. (R. 12).

Design pressure should not exceed the vapour pressure at 55°C if liquefiable gas is to be stored or the developed pressure at 55°C if permanent gas (whose critical temp. is < 10°C) is to be stored. For an insulated vessel it may be reduced corresponding to the maximum temperature likely to be attained by the gas in the vessel. Maximum allowable service pressure with allowances for cryogenic liquid (R. 13).

Design for low temperature should be as per code mentioned in R.12. Refrigeration capacity should be adequate to maintain the vapour pressure below the design pressure and the set-pressure of a safety valve. Insulation material should be approved by CC, cladding thickness more than 3 mm, water-tight and thermal conductance at 15°C should not exceed the limit prescribed by the CC (R. 14).

Filling capacity & pressure as per rule 15. The maximum quantity of liquefiable gas to be filled should not exceed the filling density (i.e. the ratio of the weight of the gas to the weight of water that the vessel will hold at 15°C) and the vessel should not become liquid full due to expansion of the gas at 55°C

if the vessel is un-insulated or at such highest temperature attainable in case of refrigerated or insulated vessel. A permanent gas shall not be filled in excess of design pressure of the vessel (R. 15).

Marking on Vessels should indicate (1) Manufacturer's name and identification (2) Standard or code (3) Official stamp of the Inspector (4) Design pressure (5) Date of tests (6) Hydrostatic test pressure (7) Water capacity (8) Gas capacity and (9) Name or chemical symbol of the gas. (R. 16.)

Painting with reflecting surface (R. 17)

Fittings should include Pressure Gauge, Temperature Indicator, Safety Valve, Level Indicator and drains. Connections as per code in rule 12. There should be two (or more) pressure relief valves (SV) spring loaded type, set to start at a pressure below 110% of the design pressure and total relieving capacity to keep the pressure inside the vessel less than 120% of the design pressure. Connections to these Safety Valve should be of sufficient size to allow the required rate of discharge. There should be shut off valve between Safety Valve and the vessel. For static (not mobile) vessels of more than 4500 lit. water capacity, outlet of Safety Valve should extend 2 mt. above the top of the vessel and at least 3.5 mt. above the ground level. They should have loose fitting rain caps. Safety Valve should be tested once in a year by a competent person and record be kept.

All liquid and vapour connections on vessels (except Safety Valve, plugged openings and where diameter is less than (1.4 mm) should have shut-off (stop) valves as close to the vessel as practicable.

There should be an emergency shut off valve (for both liquid and vapour phase) such as an excess flow valve, automatically operated valve or a remotely controlled valve which can be operated from a safe place and which shall not fail. Such emergency shut off (stop) valve is not required if liquid connection is of less than 3 mm dia and vapour connection is of not more than 8 mm dia. Excess flow rate should easily allow the normal flow rate (should not cause valve chatter) but should have closing rate below the rate of discharge from a fracture of the line it is protecting, calculated under the worst condition possible.

Liquid level gauge should show a ready amount of liquid at any time. One maximum level indicator should also be provided. Bleeding device (rotary tube, fixed tube, slip tube) cannot be completely withdrawn in normal gauging operations. (R. 18).

Hydraulic testing of all vessels by a competent person at a pressure marked on the vessel is necessary at 5 years intervals (2 years for corrosive or toxic gases.). Where water test is not possible or tolerable, CC may permit pneumatic testing along with NDT. Pneumatic test pressure for cryogenic pressure vessel shall be 1.1 times MPWP. Before each pressure test, the vessel shall be thoroughly cleaned and examined internally and externally for surface defects, corrosion, foreign matter and hazardous material (e.g. pyrophoric sludge). After test it shall be thoroughly dried internally and stamped with marks, figures and test date. A vessel failing to pass hydraulic test or found unsafe for use shall be destroyed or rendered unsuitable under intimation to the CC. The competent person shall give a test certificate in prescribed proforma. A record shall be kept of all such tests (R. 19, 20).

Chapter -III : Storage (R. 21 to 33):

General :Compressed gas vessels shall be aboveground, first stage regulating equipment in open, vessels should not be one above the other, vessels in a group should have their longitudinal axes parallel, no location within petroleum or flammable liquid area, sufficient space between two vessels to permit fire fighting operations, two or more vessels in batteries should have their top surface on the same plane and

vessels facing their dished ends should have screen wall in between them. Floor slope, sump, dyke and dimensions for corrosive, flammable or toxic gases in liquefied state (R. 21).

Minimum Safety Distances;

See table I to 7 u/r 22.

Foundations as prescribed in R. 23. Supports should be so anchored, weighed or at height to avoid flotation due to flood waters. Bottom supports upto 45 cm (max.) shall be encased in fire-resisting materials of adequate thickness.

Fencing of at least 2 mt. height with 2 exits opening out wards and not self locking. The fencing should enclose vessels, pumping equipment, vaporisers and loading/unloading facilities. (R.24).

Cleanliness An area of 3 mt. around the vessel shall be free from combustible material such as weeds and grass (R. 25).

Earthing Vessels and pipelines should be efficiently earthed and bonded (R. 26).

No smoking Notice with letters at least 5 cms size fixed on fence surface visible from outside where flammable or oxidising gases are stored (R. 27).

Fire Protection for the storage of flammable compressed gases should include sufficient supply of water, hydrants, hoses, mobile equipment, fixed monitors or automatic spray systems, control valves outside the danger area, jet & fog nozzles and at least 2 DCP type fire extinguishers of 9 kg each near each point of access to the installations. Special provision for LPG station (R. 28).

Loading and Unloading Facilities like pumps, compressors, transfer systems and hoses as prescribed in R.29. Remotely controlled shut-off valve for the vessel being filled or emptied. High level alarm interlocked with automatic shut off valve to prevent overfilling. The hoses should withstand not less than 4 times the maximum operating flow pressure in them and should be mechanically and electrically continuous (R.29).

Transfer operation should follow the detailed instructions u/r 30. Supervision by a competent person for compliance of these rules is necessary. Precautions to check vessel before and after filling, condition of piping, valves, fittings, hoses, vehicle and its earthing, prevention of overfilling, removal of spillage etc (R. 30). Provisions for LPG stations (R.30A & B).

Electrical wire should not pass over any storage vessel and all electrical wires installed within the safety zone or storage of flammable gases should be of approved insulated cables type. In a pump room for pumping flammable gases, all electric apparatus and fittings should be flameproof conforming to IS:2148 and frames shall be earthed. Lamps should have flameproof glass fittings conforming to IS:2206 (Part1) . Portable hand lamps should have been approved by the CC (R.31). Classification of hazardous area in Zone 0, I & 2 (R. 31 A & B).

Lighting should be of approved type, other wise no operation to be carried out during night
(R.32).

Safety Certificate in the prescribed proforma signed by a competent person should be furnished to the licensing authority (R.33).

Chapter - IV : Transport (R. 34 to 44):

This chapter is applicable for the transport of compressed gas by vehicles (R.34). Drawings of the vehicle and its special fittings should be got approved by the CC (R.35). Design considerations are given in rule 36 to 39. Protection of valves, accessories, piping, fittings, pumps and vessel are suggested. Mechanical, electrical and general design safety requirements are prescribed- Product should be marked on the vessel (R.40). Fire protection includes prohibition of smoking or carrying matches, lighters or any flammable substance (R.41). Driver should be a trained one. While loading/unloading presence of a competent person is necessary. Safe parking during overnight stop (R.42). A safety certificate in prescribed proforma signed by a competent person shall be furnished to the licensing authority before using any vehicle for such transport (R.43). The vehicle shall be maintained in a fit condition and examined every 6 months by a competent person and certified in a prescribed proforma (R. 44).

Chapter-V (R. 45 to 64) is regarding Licences, Chapter VI (R. 65) for exemption. Chapter VII(R. 66 to 68) for Accidents and Inquires and Chapter VIII (R. 69) for powers of CC and subordinate controllers, of District Magistrates, the Police Commissioners and their subordinates.

Accident should be reported to the CC (by Telegram and a letter within 24 hours) and forth with to the nearest police station.

Appendices are as under :

- Appendix – I : Application to manufacture a vessel. .
- Appendix – II : Qualification and Experience of Inspector and Competent person.
- Appendix – III : Application for recognition as competent person.

DOCK WORKERS (SAFETY, HEALTH & WELFARE) ACT, 1986:

This Act (No. 54 of 1986) was enacted on 7-12-1986. It came into force from 15-4-1987. It extends to the whole of India. It has 25 sections. It provides for the Safety, Health and Welfare of dock workers and for matters connected therewith. Definitions (S.2):

Appropriate Government means, in relation to any major port, the Central Govt., and, in relation to any other port, the State Govt.

Cargo includes anything carried or to be carried in a ship or other vessel.

Dock Work means any work in or within the vicinity of any port in connection with loading, unloading, movement or storage of cargoes and includes preparation of ship or other vessel and cleaning, painting, chipping of any hold, tank, structure or lifting machinery or any other storage area in board, ship or dock.

Dock Worker means a person employed or to be employed directly or through any agency, on dock work.

Inspectors and the Chief Inspector of Dock Safety (S. 3 to 8) :

The appropriate Govt. can appoint them. They can enter any ship, dock, warehouse to check any dock work, make examination of the ship, dock, lifting machinery, cargo, gear, staging, transport equipment, premises etc, require documents, take evidence, copies, photograph, sketch, sample etc., hold inquiry into any accident, issue show cause notice relating to safety, health and welfare provisions, prosecute or prohibit any dock work in dangerous condition until measures have been taken to remove that danger. Inspector will not disclose information or complaint received by them. Appeal to the Chief Inspector should be made within 15 days.

Other Provisions:

The appropriate Govt. may constitute an Advisory Committee for advice regarding administration of this Act and the regulations (S. 9). It can also appoint a competent person to inquire into any accident or occupational disease to dock workers (S. 10). Dock workers will not misuse anything provided to secure health, safety and welfare of dock workers, will not do anything to endanger self or others and, will not neglect to make use of anything provided as mentioned earlier.

Subjects of Regulations (S. 21):

Regulations may provide for safety of working place, approaches, lighting, ventilation, temperature, fire & explosion prevention and protection, safe means of access, opening and closing of hatches and protection of dangerous openings, safety from fall, lifting and cargo handling appliances, workers employed in terminals, fencing of machinery, live electrical conductors, steam pipes, hazardous openings, staging, rigging and derricks, testing of lifting m/c, ropes, slings etc., escape routes, safe methods of working and handling dangerous substances or working in harmful environment, employing persons for handling cargo or any work on ship, transport of dock workers, precautions against noise, vibration and air pollution at workplace, protective equipment and clothing, sanitary, washing and welfare facilities, medical supervision, ambulance room, first-aid and rescue facilities, safety and health organisation, training of dock workers, investigation of accidents, dangerous occurrences and diseases, forms of notices, authorities to be reported, submission of statement of accidents, man-days lost, volume of cargo handled and particulars of dock workers.

Other Acts, Rules & Regulations for Dock Workers:

DOCK WORKERS (SAFETY, HEALTH AND WELFARE) REGULATIONS, 1990:

They came into force from 16-3-1990. They apply to major ports in India as defined in the Major Ports Act, 1963. They have 7 parts, 112 regulations, 14 forms and 4 schedules.

Regulation 2 has 27 definitions including container, container terminal, conveyor, dangerous goods, dock, hatch, lifting appliance, loose gear, pulley block, responsible person, safe

working load, transport equipment etc.

Reg. 3 is regarding power of inspectors. •

Part 3 (Reg. 9-94) is on safety containing subjects of fencing, railings, staging, life saving appliances, illumination, fire protection, excessive noise, means of access, ladders, lifting appliances and gear, test and examinations, winches, ropes, heat treatment of loose gears, marking of SWL, pulley blocks, power trucks, hand trucks, fork lifts, dock railways, conveyors, handling of cargo, stacking and unstacking, cargo platforms, winch and crane operations, signaller, handling of dangerous goods, general precautions, explosive and inflammable cargo, broken or leaking containers, toxic solvents, fencing of terminals, stuffing and destuffing, fencing of motors, transport of dock workers by land and water, reporting of accidents, notification of diseases, safety officers and renewal of licences.

Part 4 (Reg. 95-99) is on Health containing provisions of cleanliness, drinking water, latrines and urinals, spittoons and ventilation and temperature.

Part 5 (Reg. 100-109) is on Welfare containing provisions of washing facilities, first aid boxes, ambulance rooms, shelters, canteens, medical examinations/notes and welfare officers.

Part 6 (Reg. 110-118) is on Special provisions like statement of accidents, training, emergency action plans, safety committees, occupational health services and general safety.

DOCK WORKERS (SAFETY HEALTH AND WELFARE) SCHEME, 1961:

Under section 4 of the Dock Workers (Regulation of Employment) Act, 1948 this Scheme is formed. It came into force on 1-10-1961. It has 5 parts, 60 paras, 4 schedules and 2 forms.

Para 2 gives 8 definitions including competent persons, dock, port authority etc.

The scheme contains the provisions of - powers of inspectors, notice of accidents and dangerous occurrences, diseases, duties of port authorities, obligations of dock workers and provisions regarding health and welfare of dock workers.

Part 4 on Safety (Para 22 to 57) contains provisions of fencing of dangerous places, gates, floor loading, stairs, means of escape in case of fire, testing, annealing, special gear, ropes, drivers of cranes, cargo platforms, conveyors, power trucks, and hand trucks, locomotives and wagons, stacking and unstacking, precautions against falling material, corrosive and caustic substances, dust fume, etc., oxygen deficiency, fumigated spaces, machinery, ladders, fire protection and rescue.

CHAPTER 5

SOCIAL SECURITY LEGISLATIONS

WORKMEN'S COMPENSATION ACT, RULES & WORKED EXAMPLES

WORKMEN'S COMPENSATION ACT, 1923:

This Act (8 of 1923) came into force from 1-7-1924. It was lastly amended by the Act 46 of 2000 w.e.f. 08-12-2000. It has 4 chapters, 36 sections and 4 schedules. The Act is made to provide compensation for accidental injury to workmen. Under Sec. 4, while calculating compensation, maximum limit of 'monthly wages' to be considered is Rs. 4000/- if monthly wages exceed Rs. 4000. Short summary is given below:

The Act extends to the whole of India. A list of 'dependants' is given u/s 2(1) (d).

Definitions (Sec. 2):

Definition of employer is very wide and includes his managing agent; legal representative of a deceased employer, contractor etc.

'Workmen' includes employees working in railway, ship, aircraft, motor vehicle, abroad or as in Schedule-11 wherein some 48 categories are specified.

'Wages' excludes travelling allowance or concession, special expenses and contribution towards any pension or P.P.

Partial disablement (temporary or permanent) and total disablement (temporary or permanent) are defined as same in the ESI Act and the W.C. Act. See part 7 also.

Employer's Liability (Sec 3) : He is liable to pay compensation if accident arises out of and in course of employment He is not liable for injury -

1. If disablement lasts less than 3 days
 2. If the workman takes drink or drugs, or
 3. Willfully disobeys any order or a rule of safety, or
 4. Willfully removes or disregards any safety guard or device provided for his safety,
- But he is liable even under such conditions if injury results in death or permanent total disablement.

If a workman contracts any occupational disease (i) in Part-A of Schedule III or (ii) in Part B of Schedule III if he is in continuous service of more than 6 months or (iii) in Part C of Schedule III if he is in the service of one or more employers for such continuous period as may be specified, it shall be deemed to be an injury by accident arisen out of and in course of the employment and makes the employer(s) liable for compensation. The disease should be directly attributable to his employment.

If a workman claims or agrees to take compensation under this Act, his suit for damages in a Civil Court is not maintainable [Sec 3(5)].

Amount of Compensation (Sec. 4):

	Type of Injury	Amount
(a)	Death	50% of monthly wages X Relevant factor based on age (from Schedule IV) or Rs. 80,000/- whichever is less or more

(b)	Permanent total disablement	60% of monthly wages X Relevant factor from Schedule – IV or Rs. 90000/- whichever is more.	
(c)	Permanent partial disablement	1	For injury in part II of Schedule I, such % of compensation payable in item (b) above as % of loss of earning capacity mentioned in Column-3.
		2	For injury not specified in Schedule – J, such % of compensation payable in item (b) above as proportionate to the loss of earning capacity (permanent) certified by the medial practitioner.
(d)	Temporary disablement (total of partial)	Half monthly payment of the sum equivalent to 2/5 % of monthly wages till the ceasing of the disablement or 5 years whichever is shorter.	

In case of death, the funeral expenditure of Rs. 2500/- shall be deposited with the Commissioner. Maximum limit of 'monthly wages' is Rs. 4000/- in above calculation. Compare Schedule I and III of W.C. Act, Schedule II and III of ESI Act and the Schedule of the Personal Injuries (Compensation Insurance) Act, 1963. They seem to be similar.

Penalty for late payment (Sec. 4A) : Compensation shall be paid as soon as it falls due. If it is paid after 1 month simple interest of 12% or maximum bank interest is payable. If delay is not justified, penalty up to 50% of the compensation is also payable.

A show-cause notice to the employer is necessary before passing an order for penalty.

The interest and penalty both shall be paid to the workman or his dependent, as the case may be.

Distribution of compensation (Sec. 8) : Compensation payable in case of death, payable to woman or legally disable (e.g. minor) person, shall be paid through

Commissioner (Court) only and not directly. Direct payment shall not be deemed compensation.

An employer can give advance up to 3 months' wages which is deductible and the Commissioner shall repay it to the employer.

The Commissioner shall give receipt to the depositor, notice to dependant(s), make inquiry and if satisfied that no dependant exists, he shall repay the balance to the employer. If the dependant is women or legally not eligible, the same may be investigated and mode of payment during non eligibility may be directed for the welfare. In other cases direct payment is possible. The Commissioner has power to change or amend his order for investment if satisfied with the reason.

Others: Method of calculating 'monthly wages' is prescribed u/s 5. Half monthly payment can be reviewed u/s 6 and converted into lump-sum u/s 7. Compensation is protected and cannot be assigned, attached or charged (sec. 9). Claim is to be made within 2 years (sec. 10). Delay may be justified. A Commissioner can directly send a notice to an employer to furnish within 30 days information of death of his workman or his explanation (sec IOA). Reports of fatal accident or serious bodily injury shall be given to the Commissioner within 7 days (sec. IOB). An injured workman will not refuse to undergo medical examination, otherwise his compensation may be suspended for the period of his refusal, or for the period of his return if he has left the premises without examination. In case of a contract labour, the principal employer is liable if the contractor fails to pay compensation (sec. 12). Where any employer has entered into any contract with any insurer for liability to a workman, the insurer will pay to the workman as per liability accepted. The workman has to give notice to the insurer for his claim as soon as he becomes aware that his employer has become unable to pay (sec. 14). Compensation can become first charge on assets transferred by employer (sec. 14-A). Prescribed return is to be sent to authority u/s 16. Any contract or agreement of relinquishing right of compensation is null and void u/s 17. Maximum penalty for offences is Rs. 5,000/-, Limit of filing complaint is 6 months and sanction of commissioner is necessary for prosecution (see ISA).

Special provisions are made for other workmen.

Chapter-3 (sec. 19 to 31) is regarding Commissioners, their appointment, venue, power, appearance of parties, evidence, registration of agreements, appeals, recovery etc.

Chapter-4 gives rule making powers to the State and procedure (sec. 32 to 36)

Schedule I to 4 are regarding (1) Injuries and loss of earning capacity, (2) List of different, 48, workmen (3) List of Occupational Diseases and (4) Age factors to calculate compensation, respectively.

THE WORKMEN'S COMPENSATION RULES, 1924:

Under section 32 of the WC Act, these rules were notified on 26.6.1924.

Deposit of compensation (Rules 6 to 10) : In a death case the compensation shall be deposited with Form-A and in other cases with Form-AA. The receipt will be in Form-B. The statement of disbursements to be given to the employer (by commissioner) shall be in Form-C. A dependant's application for order to deposit compensation shall be in Form G.

Deposit u/s 8(2) i.e. any sum more than Rs. 10/shall be in Form-D and its receipt shall be in Form-E.

The Commissioner shall display a list of deposits received by him and invest for the benefit of dependants in Government securities or Post Office cash certificates or Post Office Savings Bank.

Reports of Accidents (Rules II &. 12) : Report of accident u/s IOB shall be in Form EE. An employer can present a memorandum of inquiry of any accident.

Medical Examination (Rule 13 to 18) : The employer shall arrange free of charge medical examination at his premises or at the workman's residence. Time will be between 6 a.m. to 7 p.m. if the workman does not consent to other time. A workman receiving half monthly payment will be examined at his residence and not more than twice in the first month or more than once in any subsequent month. After suspension of right to compensation, if the workman offers himself for examination, he shall be examined within 72 hours at the place and time fixed by the employer. Woman shall be examined by in presence of a female doctor.

Others : Chapters 5 to 8 are for procedure, transfer, appointment of representatives and memorandum of agreement (Forms K, L or M and notice to party in Form-0) respectively.

For figures of compensated injuries and amount of compensation paid under the WC Act see Table 5.11 of Chapter 5.

See IS'3786 for injury rates and accident classification (Part 9 & 10 of Chapter 5).

Compensation for Occupational Diseases:

Compensation for occupational diseases is payable u/s 3 of the Workmen's Compensation Act, 1923. Subsections (2 to 4) provide as under:

Contracting of the disease peculiar to the employment and specified in Part A, B & C of Schedule III (mentioned in foregoing part 7.2.4) is to be considered as an injury by accident arisen out of and in the course of the employment.

For Part A diseases, compensation is payable irrespective of any length of service as the incidence rate or possibility of such diseases is high and very obvious.

For Part B diseases, compensation is payable provided a service of 6 months is completed, as these diseases are very specific to certain chemicals and their incidence rate is slightly lower than that of Part A diseases.

For Part C diseases, compensation is payable, irrespective of length of service and even if the affected worker has worked under one or more employers, as these are lung diseases and their

Effect is delayed i.e. visible after 5 to 10 years of service.

5. Compensation is payable for Part B & C diseases even after the cessation of the service.

3.9 For Part C diseases and for working under more than one employer, all the employers are liable to pay compensation in proportions decided by the W.C. Commissioner.

7 For any other disease, if it is directly attributable to a specific injury by accident arising out of

.

- and in the course of employment, the compensation is payable.
9. Compensation is not payable if any suit for damages is filed in the court or a suit for damages shall not be maintainable if a claim for compensation is filed before the W.C. Commissioner, or if any agreement is made between the workman and his employer to pay in accordance with the WC Act.
 - The doctor shall refer Schedule I while assessing percentage loss of earning capacity.
 - 4 The maximum period of half-monthly payment for temporary disablement is 5 years, and wage limit of Rs. 4000 is not applicable in this case.

3. Worked Examples :

Section 4 and Schedule I, III and IV are to be seen simultaneously. Monthly wage limit is Rs. 4000.

For example, if death occurs due to any disease mentioned in Sch. III, payment should be as per section 4 (1) (a).

Example I : A worker of 24 years (completed) and drawing monthly wages of Rs. 3800, dies due to any disease mentioned in Part A or C or any disease in Part B if his service is of more than 6. months, amount of compensation shall be

$$15. \quad 0.50 \times 3800 \times 218.47 \text{ (Age factor)}$$

$$16. \quad 1900 \times 218.47 = \text{Rs. } 4,15,093 \text{ or Rs. } 8,000 \text{ whichever is more..}$$

Note : If monthly wages are more than Rs. 4000 per month, consider Rs. 4000/- only for the purpose of calculation. Age factor is derived from Schedule IV based on completed years of age.

Example 2 : A worker gets any of the permanent total disablement mentioned in Part I of Sch. I, due to occupational disease in Part III, and his age and monthly wages are 48 and Rs. 5600 respectively. Compensation will be

$$1.0.60 \times 4000 \times 159.80$$

$$2.2400 \times 159.80 = \text{Rs. } 3,83,520 \text{ or Rs. } 90000 \text{ whichever is more.}$$

Example 3 : A worker loses partial vision of one eye (item 26A, part II, Sch. 1) due to occupational cataract by infrared radiation (item II, Part B, Sch. III) at the completed age of 40 with monthly wages Rs. 6500. Compensation shall be

$$4. \quad 0.10 \times 4000 \times 184.17$$

$$5.400 \times 184.17 = \text{Rs. } 73668.$$

Example 4 : A worker suffering from silicosis (e.g. any lung disease) - injury not specified in Sch. I, but certified by a doctor as '80% loss of earning capacity (permanent partial disablement)' at his age of 58 and monthly wages Rs. 9600, his compensation shall be

$$1.0.80 \times 4000 \times 124.70$$

$$2.3200 \times 124.70 = \text{Rs. } 3,99,040.$$

Example 5 : A worker's whole middle finger is amputated (item 31, Part II, Sch. 1) due to chrome ulceration and his lung damaged by 30% permanent partial disablement as assessed by the doctor, due to exposure to chromium vapors, and his age and monthly wages being 38 and Rs. 5600 respectively, his compensation shall be -

5. For finger damage
 $0.12 \times 4000 \times 189.56$
 $480 \times 189.56 = \text{Rs. } 90988.80$

6. For lung damage
 $0.30 \times 4000 \times 189.56$
 $1200 \times 189.56 = \text{Rs. } 2,27,472$

Total Rs. $90988.80 + 227472.00$
 $= \text{Rs. } 3,18,460.80$

Comparing with permanent total disablement [Sec 4(1) (C), Explanation - 1]

19. $0.60 \times 4000 \times 189.56$

20. $2400 \times 189.56 = \text{Rs. } 4,54,944$ or Rs. 90000 whichever is more.

As amount Rs. 318460.80 does not exceed Rs. 454944, total compensation payable in this case is Rs. 318460.80.

Example 6 : A worker worked in three sugar mills in a continuous period of 16 years and it was detected that he was suffering from bagassosis due to sugarcane dust. This was found at his age of 45 and monthly wages Rs. 7800. The lung damage (permanent partial disablement) assessed by a doctor is 50%. Calculate the compensation payable by each, of the three employers.

Compensation

$4.0.50 \times 4000 \times 169.44$

$5.2000 \times 169.44 = \text{Rs. } 338880$

As per Section (2-A), each employer may pay Rs. $338880/3 = \text{Rs. } 112960$ to the worker, or in the proportion decided by the WC Commissioner depending on the facts of his case. The employer in whose sugar mill suppose the dust concentration was higher or for longer duration, may be directed by the Court to pay more proportion of the total amount.

Example 7: A worker while handling organo phosphorous compound, undergoes toxic effect and remains absent for 3 months as per medical finding of this cause and advice. To what compensation he is entitled for this temporary disablement? He is drawing Rs. 4500 per month.

As per Section 4 (1) (d), he is entitled to a half monthly payment of 25% of his monthly wages i.e.. $0.25 \times 4500 = \text{Rs. } 1125$ from the 16th day from the date of disablement.

Here ceiling of Rs. 4000 per month is not applicable. It is applicable to death or permanent total disablement only [Explanation II to Sec 4 (1)].

EMPLOYERS' LIABILITY ACT, 1938

This Act (24 of 1938) came into force from 24-9-1938. It was lastly amended by an Act 51 of 1970. It is a small Act of five sections only. Its preamble declares that certain defences shall not be raised in suits for damages in respect of injuries sustained by workmen.

It extends to the whole of India and applies to all employers including contractors and agents who employ workmen-(including apprentice) under a contract which is express or implied.

Defence of common employment barred : Where personal injury is caused to a workman because of the act or negligence or omission of the employer or of any person in service of the employer and acting in obedience or performing duty by the workman, a suit for damages by the injured workman or by his legal representative in case of his death, shall not fail by reason only of the fact that the workman was in the service (duty bound to do so and in common employment or he has accepted that risk) of the employer at that time.

Any term in contract of service or apprenticeship that excludes or limits liability of the employer in respect of personal injury caused to the workmen or apprentice by the negligence of persons in common employment with him, shall be void.

In any such suit for damages, it shall not be presumed that the workman undertook the risk attaching to the employment unless the employer proves that the risk was fully explained to and understood by the workman and that the workman voluntarily undertook the same.

This Act gives support to the claim (damages) of the worker in civil suits. Plea of the employer of 'contributory negligence by the worker or his knowingly acceptance of the risk as an integral part of his employment' is prohibited and this defence is not permitted for him. Though after fully amending ESI Act and WC Act and covering large scope of injuries and compensation, utility of this Act is diminished.

EMPLOYEES' STATE INSURANCE ACT & RULES THE EMPLOYEES' STATE INSURANCE ACT, 1948:

This Act No. 34 of 1948 (in force from 31-3-1948) was modified in 1950,1956 and 1957 and amended in 1951, 1966, 1970,1975,1984 and 1989. It has 8 Chapters, 100 Sections and 2 Schedules. Chapter 4 of contributions and Chapter 5 of Benefits are more important.

Preliminary (Sec. 1) : The Act applies to the whole of India and to all factories other than seasonal factories. It can be applied to establishment industrial, commercial, agricultural or otherwise with six months' notice. Once the Act applies it shall continue even if the number of employees falls below the limit or the manufacturing process (with power)

ceases.

Definitions (Sec. 2) : Contribution means the sum of money payable to the ESI Corporation by the principal employer in respect of an employee and an amount payable by or on behalf of the employee.

Dependent includes many relatives as prescribed by Sec.2 (6-A).

Employment injury means an injury to employee caused by accident or occupational disease arising out of and in course of his employment (insurable) whether the accident or disease takes place within or outside India.

Employee includes direct, contract or hired persons at main factory or establishment or its department, branch or a place for sale/purchase and also an apprentice (not under the Apprentices Act, 1961). His wage limit (excluding overtime wages) be prescribed by the Central Government.

Family is defined u/s 2(11)

Permanent partial disablement means such disablement of a permanent nature as reduces the earning capacity of an employee in every employment which he was capable of undertaking at the time of the accident resulting in the disablement (All injuries in Part II of the 2nd Schedule). .

Permanent total disablement means such disablement of a permanent nature as incapacitates an employee for all work which he was capable of performing at the time of the accident resulting in such disablement (All injuries in Part I of the 2nd schedule or from combination of injuries in Part II thereof).

Temporary disablement means a condition which requires medical treatment and makes the employee temporarily incapable of doing the work which he was doing prior to the time of injury.

Wages includes all remuneration except contribution to any pension fund or provident fund or under this Act, travelling allowance, gratuity and special expenses.

Corporation's Power for Health Measures (Sec. 19) : The Corporation may, in addition to the scheme of benefits, promote measures for the improvement of health and welfare, rehabilitation and reemployment of insured persons from the funds of the Corporation.

Purposes of the ESI Fund (Sec. 28) :

- (5) Payment of benefits and medical treatment to insured persons and their families.
- (6) Expenditure of hospitals, dispensaries, medical and ancillary services for the insured persons and their families.
- (7) Contribution to State Govt., local authority or any private body or individual towards cost of medical treatment to insured persons and their families, including cost of building and equipment.

= Expenditure for improvement of health, welfare, rehabilitation and re-employment of

insured or injured persons.

- = Payment of fees, salaries, allowances of the members, officers and staff.
- = Payment of cost of auditing accounts, courts set up under the Act, contract and cost of any legal or court proceedings.

Contributions (Chapter- 4, Sec. 38 to 45-1) : Two types (i) Employer's contribution and (ii) Employee's contribution. Rates may be prescribed by the Central Government. Payment becomes due on the last day of the wage period. Interest 12% p.a. or more for the late payments. It is recoverable as an arrears of land revenue. The principal employer shall pay both the contributions and can recover from the employees or their immediate employer (e.g. contractor) their part. Register of- employees, contributions necessary and returns are also required.

ESI Inspectors have powers to visit factories, establishments etc. and to ask any principal or immediate employer to furnish necessary information, account books, records etc. regarding employment of persons, payment of wages etc. and can make copies also for the purposes of this Act.

Benefits (Chapter-5, Sec. 46 to 73 1) : Insured persons, their dependants or other persons mentioned can get following benefits under the Act and no similar benefits under any other Act. Though they can get similar benefits available under service conditions, customary concession, sickness leave, motor accident claims under the Motor Vehicles Act and damages/compensation for injuries due to the negligence of the employer (Judgements).

- 1 Sicknessbenefit : Periodical payments for sickness certified by a Doctor. Eligibility, rates and conditions may be prescribed by the Central Government.
- (2) MaternityBenefit : Periodical payments to an insured woman in case of confinement, miscarriage, sickness due to pregnancy, premature birth etc. on medical certificate. Eligibility, rates, period and conditions may be prescribed by the Central Government.
- (3) Disablementbenefit : Periodical payment to an insured person for disablement due to employment injury and certified by a doctor.

For temporary disablement of more than 3 days (excluding the day of accident) and

For permanent disablement - total or partial - this benefit is available at the rate, period and condition prescribed by the Central Government.

An accident shall be presumed as arisen in course of employment, in the absence of evidence to the contrary. Benefit is available for accident happening while acting inbreach of regulation or while travelling in employer's transport or while meeting emergency and acting for the employer's trade or business.

Dependants'benefit : Periodical payments to the dependants of an insured person who dies due to employment injury. The rates, period and conditions may be prescribed by the Central Government.

Medicalbenefit : Payment for medical, surgical and obstetric treatment for and

attendance on insured persons, by the State Government or the Corporation.

Funeral expenses.: Payment to the family member or any other person who actually incurs

The claims should be made within 3 months of the death of the insured person.

Occupational Disease as an Employment injury : Contracting of any disease mentioned in the Third Schedule and in its

Part A -without any period in that employment,

Part B - for working more than 6 months in that employment, or

Part C -for working such period as the Corporation specifies,

Shall be deemed to be an "Employment injury arising out of and in the course of employment".

Any question regarding permanent disablement or proportion of loss of earning capacity or any such assessment, shall be determined by a Medical Board. An appeal against the decision of the medical board may lie with the Medical Appeal Tribunal. Both the Board and the Tribunal can review their decisions if satisfied by fresh evidence.

The corporation may, with the approval of the State Government, establish and maintain in the State hospitals, dispensaries, medical and surgical services for the benefit of the insured persons and their families.

The right to receive any payment of any benefit is not transferable or assignable. Disablement benefit cannot be commuted for a lump sum amount.

Sickness or disablement benefit for temporary disablement cannot be availed if the employee works on that day (of claim) or remains on leave or on a paid holiday or on strike.

Recipient of sickness or disablement benefit will observe conditions to remain under medical treatment at a place provided under this Act, to carry out medical instructions, not to leave the area, to allow himself for medical examination and not to do anything which may retard chances of recovery.

An insured person cannot get for the same period (a) both sickness and maternity benefit or (b) both sickness and temporary disablement benefit or (c) both maternity and temporary disablement benefit. When a person is entitled to more than one such benefits, he has to choose any one benefit.

The corporation has right to recover where a principal employer fails or neglects to pay any contribution, or any amount for excessive sickness arising due to insanitary working conditions or not observing any health regulations.

If any person receives any benefit unlawfully, he shall be liable to repay to the corporation that amount.

If any person dies, any cash benefit payable to him shall be paid to his nominee/representative upto and including the day of his death.

No employer can reduce wages or benefits payable by him under service conditions because of the benefits conferred by this Act.

No employer can dismiss or punish employee during period of sickness, maternity, temporary disablement or certified illness etc. Notice of dismissal, discharge or reduction during such period shall be invalid or inoperative.

A person who misuses the benefit given under this Act, will be disentitled by the Central Government after giving him an opportunity of being heard.

Miscellaneous (Sec. 87 to 100) : The Government has power of exemptions. Rule making powers lies with the Central as well as the State Governments. The Corporation has power to make regulations. For their subjects see sections 95 to 97.

THE EMPLOYEES' STATE INSURANCE (CENTRAL) RULES 1950:

They came into force from 22-6-1950. The Chapter-6, sections 47 to 62 are important as they provide further details on the subject of provident fund, wage limit, rates of contribution and benefits. Their summary is as under:

P.F.: The Corporation shall establish, maintain, and contribute to the "ESIC Provident Fund" for insured employees. It shall form a committee and regulations for its working.

Contribution period and Benefit period :

They are prescribed as under :

Contribution Period	Corresponding Benefit Period
1 st April to 30 th Sept.	1 st January to 30 th June of the year following
1 st Oct. to 31 st March of the year following	1 st July to 31 st December

Incase of a person who becomes an employee for the first time, the first contribution period for him will begin from the date he enters into insurable employment in the contribution period current on that day (i.e. the date of employment) and his corresponding benefit period will begin on the expiry of nine months from the date of such employment.

Wage Limit for Coverage : Up to Rs. 10000/- p.m. w.e.f. 1-4-2006.

Rates of Contribution : Employer's contribution 4.75% of the wages payable to an employee. Employee's contribution 1.75% of his wages (w.e.f. 11-1997). An employee whose average daily wage is upto Rs. 50/- is exempted from paying his contribution though the employer's contribution in respect of such employee, shall continue (News, 7-9-97).

Standard benefit rate : As per Table, u/r 54. Revised with 18 entries w.e.f. 1-1-1997.

Sickness benefit : It is available if the contribution is paid for 50% of days of the contribution period. For the first two days of sickness the benefit is not available. For maximum 91 days in any two consecutive period the benefit can be available. Payment rate

is the standard benefit rate u/r 54.

Maternity benefit: At least 70 days contribution during preceding two consecutive contribution periods make the insured women eligible for this benefit. For maximum 12 weeks the benefit is available. Medical proof is necessary. Payment rate is twice the 'standard benefit rate' u/r 54.

Disablement benefit: It is available for the disablement period of more than 3 days (excluding the day of accident) and for the whole period of permanent disablement or for life. Daily rate of payment shall be 40% more than the standard benefit rate u/r 54, and this rate shall be called the "full rate". For temporary and permanent total disablement, full rate is available, but for permanent partial disablement from injury specified in Part II of the 2nd schedule, at such percentage of the full rate and for injury not specified in that schedule, at proportionate to the loss of earning capacity (assessed by the medical certificate) the benefit will be available.

Dependants" benefit: To widow 3/5 of the full rate (till life or remarriage), to son 2/5 of the full rate (until he attains 18 years age), to unmarried daughter 2/5th of the full rate (until the age of 18 years or marriage whichever is earlier). If no widow or children, then, to a parent or grand parent for life 3/ 10 of the full rate, to any other male dependent till his age of 18 and to any other female dependent till the age of 18 or marriage, whichever is earlier or if widowed, until her age of,18 or remarriage whichever is earlier at 2/10 of the full rate. Total rate shall not exceed full rate and the amount shall be equally divided among the dependants.

Funeral expenses: Rs. 2500/- from 1-10-2001.

1. The Employees' State Insurance (General) Regulations, 1950 :

The corporation has made u/s 97, these regulations, w.e.f. 17-10-1950 to provide further details. Some summary is given below:

Provisions of identity card, family identity care Inspector, Insurance Medical Officer, Insurance Number, local office, regional office, regional director local committees are explained.

Registration of factories, establishments and families is required. Return of contributions, in Form No. 6, in 4 copies is to be sent to the ESI office Contributions should be paid within 21 days of the last day of the month in which it fall due. In case of permanent closure, it should be paid on the last. day of closure. For late payment, interest at 15% p.a is payable. In addition to this, damages are also payable as under:

No.	Delay Period	% P.A. damages
1	Upto 2 months	3
2	2 to 4 months	10
3	4 to 6 months	15

.		
4	6 months and above	25
.		

Register of employees should be in Form-7.

Benefits (Chapter 3, Regulation 44 to 95E) :For any benefit, proper claim form should be filled in Claim becomes due from the date of medical certificate and it shall be certified by the Local Office, which can ask further evidence also. Medical certificate from Insurance Medical Officer is necessary.

Benefits (first payment) are payable as under

No.	Type	To be paid within
1	Sickness benefits 7	days
2	Funeral expenses	15 days
3	Maternity benefit	14 days
4	Temporary disablement	30 days
5	Permanent disablement	30 days
6	Dependant's benefit	90 days

Disablement Benefit :An employee will inform employer about accident to him. Employer will record it in an Accident Book in Form No. 15 and will report to the Local Office in Form No. 16 within 24 hours. For occupational disease specified in 3rd schedule no such notice is necessary but information required by the Local Office shall be given. Employer shall arrange for the first aid.

Dependants benefit :Death of an insured person is to be reported immediately to the Local Office and his body shall be disposed of 'after examination (and post-mortem if necessary) by Insurance Medical Officer or other Medical Officer. Death certificate in Form 17 shall be issued to the dependants. Claim for dependants' benefit will be submitted in Form 18 to the Local Office, with documents and proofs prescribed u/r 80.

Maternity Benefit :An insured woman will give notice in Form 19 and pregnancy certificate in Form 20 to the Local Office. Other Forms 21, 22, 23 are also required as per Reg. 88. She may lose benefit if she refuses for medical examination by a female doctor or midwife.

Funeral expenses: Death certificate in Form 15 and claim Form 25-A are prescribed.

Medical benefit :A person receiving disablement benefit can also get medical benefit. This benefit is available after payment of contributions for 50% days of the contribution period and for a period of 3 months if he is continued in the service for 2 months or more.

Some 28 forms have been prescribed under these Regulations.

For figures of number of factories and employees covered and benefits given under the ES. Act see Table 5.13 and 5.14 of Chapter-5.

Criticism : This ESI scheme logically and theoretically seems beneficial for well being of the workers but in its practice of more than 45 years it has gained heavy criticism because of its

1. Poor administration.
2. Incapacity to provide speedy service to thousands of workers and their families.
2. Insufficient hospitals, dispensaries, doctors, facilities and staff.
3. Rude and rigid behaviour with workers who need love and affection.
4. Complexity of forms and procedure.
5. Hardship to workers in going to limited centres and at a longer distance.
6. Poor quality of medicines and treatment.
7. No real interest in worker's welfare 'and referring him here and there.
8. More stress in collecting money than 'disbursement of benefits to workers.
9. Profit making attitude instead of charitable.

Because of above factors not only employers out employees and their trade unions have also opposed this scheme and resisted against its forceful application. Insured employees prefer to go to private doctors and hospitals for better treatment. They are losing faith from ESI doctors, their treatment and medicines. Only poorer workers go there under compulsion.

As per one news report of 25-8-1997, even after raising the eligibility wage limit from Rs. 3500 to Rs. 6500 per month and similar increase in employers' contributions there is no improvement in ESI medical services. On the contrary the condition is deteriorated. Despite of increase in number of employees and income of the Scheme, strength of doctors is reduced. In 1995 there were 3160 doctors which reduced to 3076 in 1996. In 1991 there was, one doctor per 2127 members While in 1996 that proportion was one doctor per 2374 members! The Government gives subsidy also. Even then the service is not satisfactory.

It is suggested in this report that the Government should give Health Insurance Policies to the members to make the Scheme more meaningful.

In another press-note of Financial Express dated 4-9-97, it is confessed that many States are giving less importance to the Scheme and the Corporation has become a silent spectator and the quality of the Scheme has gone down. The Central Administration is unable to pay full attention and therefore it is, now, decided to establish State Corporations under the control of the Central ESI Corporation.

Where ESI scheme is made applicable, a trend is noticed of increase in accidents. This may be due to a wrong approach of workers' to take benefit of accident leaves. This again adds to the loss of national production.

ESI authorities and corporation has to find and apply remedial measures to above

problems.

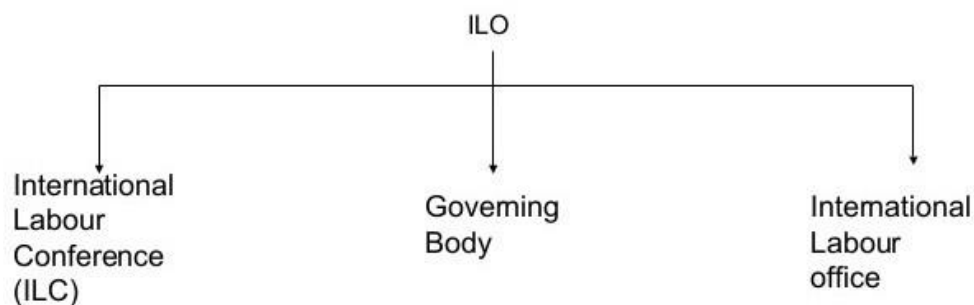
Expansion of infrastructure, HRD training to doctors and staff, loving and charitable attitude, less contribution and higher benefit utilising full income, better hospitals, nice dispensaries, good facilities and speedy service can certainly change its present scenario.

CHAPTER - 6

International Labour Organization Structure

Cooperation between government and employers and workers organisations is important for working with ILO. The ILO accomplishes its work through three main bodies, which are as follows:

Structure of ILO



1. International Labour Conferences (ILC) : ILC is the Policy-making organ of the ILO it comprises of 4 representatives representing governments, employers and workers in the ratio **2:1:1**. ILC holds its sessions once in a year Delegates to this session may be accompanied by advisory not exceeding two for each item on the agenda. Delegates have the right to choose the committee, they have wished to serve and once registered a member of a committee, they have the right to speak and to vote. Because of this voluntary selection of committee, the representation of groups on any particular committee may not be equal. Consequently, when votes are taken the voting of each group is ‘‘weighted’’ so that the total voting power of each of the three groups is equal. Each committee elects its own officers –a chairperson and a worker and employers vice chairperson. Just as with the Conference as a whole government. Workers groups and employers groups within the committees hold their own separate meeting to discuss their views of the matters of agenda. Observer from trade union organisations with a special knowledge of the subject Participates in the worker’s group it has become the tradition that one such observer is elected secretary of the group and , is informally recognised as having a special position in the plenary sessions of the committee. These committees are:

1. The Credential Committee.
2. The Selection Committee.
3. The Resolution Committee.
4. A Committee for the application of Conventions and Recommendations;
5. The Drafting Committee.
6. The Committee on Standing Order.
7. The Finance Committee.

Functions of ILC:

- i. To formulate International Labour Standards.
 - ii. To fix the amount of contribution by the member states.
- iii. To decide the expenditure budgeted estimate proposed by the Director-General and submitted to the Governing Body.
- iv. To make amendments to the constitution subject to subsequent ratification of the amendment by 2/3 member states including 5 of the 10 states of industrial importance.
- v. To consider the report of the director General giving labour problems and assists in their solution.
- vi. To appoint committees to deal with different matters doing each session.
 - vii. To select once in 3 years members of the Governing Body.
 - viii. To elect its President.
- ix. To seek an advisory opinion from the International Committee of justice.
- x. To confirm the powers, functions and procedure of Regional Conference.

2. Governing Body:

It is the Principal organ of the ILO. It is ow political non-political parties body. It implements decisions of the ILC with the help of the International Labour Office , Out of the 56 members in it, 28 represent the governments, 14 employers and 14 labour India is one of the ten states of chief Industrial importance, The tenure of office of this body is 3 Years it meets several times a year to take decisions on the programmes of the ILO.

Functions of Governing Body

Functions of Governing Body are as follows:

- i. To coordinate work of the organisation,
- ii. To prepare agenda for each session and subject to the decision of the ILC to decide what subject should be included in the agenda of the ILC.
 - iii. To appoint the Director General of the office.
 - iv. To scrutinise the budget.
- v. To follow up the implementation of the conventions and recommendations adopted by the ILC by member states.
- vi. To fix the date, duration and agenda of the Regional conference.

3. International Labour Officer:

This is the third major and important organ of the ILO. The Director- General of the ILO is the Chief Executive of the secretariat. He is appointed by the Governing Body. His tenure is for 10 years and his term may be extended by the Governing Body.

Functions of International Labour Office:

- i. To prepare documents on the times of the agency for the conference.
- ii. To assist governments informing legislate on the basis of the decisions of the ILC.
- iii. To carry out its functions related to the observance of the conventions.
- iv. To bring out publications dealing with industrial labour problems of international interest.
- v. To collect and distribute information of international labour and social problems.

Impact of ILO on Labour Welfare in India

Labour class is defined one of the classes most vulnerable to exploitation if not the most. Most of the labour laws in India are pre-constitutional. The concept of Fundamental Rights was introduced by the Constitution. Although most of the pre-constitutional laws have been replaced or curtailed following the Doctrine of Eclipse and Doctrine of Severability, not a lot of changes had to be made to the labour laws that were well passed before the Constitution.

The success of these labour laws must be attributed to the ILO, as the guidelines issued by the ILO were formed the principles on which laws were drawn. By observing the passage of Labour Laws in India ,through the various amendments, it is evident that the ILO did have a great impact on the Labour Laws in India.

IOL CONVENTION AND RECOMMANDATION CONCERNING OCCUPATIONAL HEALTH AND SAFETY

LIST OF IMPORTANT CONVENTION

CONVENTION NO	SUBJECT	YEAR
45	UNDERGROUND WORK(WOMEN)CONVENTION	1935
77	MEDICAL EXAMINATION OF YOUNG PERSON (INDUSTIAL OCCUPATIONAL)	1946
78	MEDICAL EXAMINATION OF YOUNG PERSON (NON INDUSTIAL OCCUPATIONAL)	1946
115	RADIATION PROTECTION CONVENTION	1960
120	HYGINE CONVENTION	1964
124	MEDICAL EXAMINATION OF YOUNG PERSON (UNDERGROUND WORK)	1965
130	MEDICAL CASE & SICKNESS BENEFIT CONVENTION	1969
139	OCCUPATIONAL CANCER CONVENTION	1974
148	WORKING ENVIRONMENT (HIV, NOICE, VIBRETION)	1977

152	OCCUPATIONAL SAFETY & HEALTH CONVENTION (DOCK WORK)	1979
155	OCCUPATIONAL SAFETY & HEALTH CONVENTION	1981
161	OCCUPATIONAL HEALTH SERVICE CONVENTION	1985
162	ASBESTOS CONVENTION	1986
167	SAFETY & HEALTH IN CONSTRUCTION CONVENTION	1988
170	CHEMICAL CONVENTION	1990
171	NIGHT WORK CONVENTION	1990
174	PREVENTION OF MAJOR INDUSTRIAL ACCIDENT	1993
176	SAFETY & HEALTH IN MINES	1995
184	SAFETY & HEALTH IN AGRICULTURE CONVENTION	2001
187	PROMOTIONAL FRAMEWORK FOR OCCUPATIONAL SAFETY & HEALTH CONVENTION	2006

LIST OF IMPORTANT RECOMMENDATION

RECOMMENDATIONNO	SUBJECT	YEAR
156	WORKING ENVIRONMENT (AIR POLLUTION, NOISE& VIBRATION)	1977
164	OCCUPATIONAL SAFETY & HEALTH	1981
171	OCCUPATIONAL HEALTH SERVICERECOMMENDATION	1985
172	ASBESTOS RECOMMENDATION	1986
175	SAFETY & HEALTH IN CONSTRUCTION	1988
177	CHEMICAL RECOMMENDATION	1990
178	NIGHT WORK RECOMMENDATION	1990
182	PREVENTION OF MAJOR INDUSTRIAL ACCIDENT	1993
183	SAFETY & HEALTH IN MINES	1995
192	SAFETY & HEALTH IN AGRICULTURE	2001
194 197	LIST OF OCCUPATIONAL DISEASE PROMOTIONAL FRAMEWORK FOR OCCUPATIONAL SAFETY & HEALTH	2006