

Section 14.1

~~SECTION - X~~

SAFETY/ SECURITY REGULATIONS OF OPERATING REFINERY

1. INTRODUCTION

- 1.1 Contractor shall adhere to safe Construction practice and guard against hazardous and unsafe working conditions. All Security Rules shall also be observed by all personnel of Contractor to maintain orderly conditions. Safety / Security Regulations as laid down hereunder shall be strictly adhered to.
- 1.2 The term 'CONTRACTOR' as used in this Section shall be understood to include any and all sub contractors performing work on behalf of the CONTRACTOR, who shall be responsible for communicating the information contained herein to the respective sub-contractor and for directing and supervising their work.
- 1.3 It is the Owner's Policy that the Safety of Contractor's employees working on site is required to be of the same high standards as that of its own employees. As such to meet the standard in respect of all Labour, directly or indirectly employed in WORK for the performance of CONTRACTOR'S part of this Agreement, CONTRACTOR shall at his own expense arrange for all the safety provisions as per safety codes of C.P.W.D., Indian Standards Institution, The Indian Electricity Act and Indian Electricity Rules, and such other Acts and Rules as applicable including BPCL Safety Rules.
- 1.4 Contractor shall abide by the safety regulations of the refinery as mentioned in the Contractors' Safety Regulations (Latest Revision) as well as ensure that safety equipment as stipulated in the Factories Act (Latest Revision) are used by their employees during the execution of work. The Contractor shall also abide by the environmental regulations in the Refinery
- 1.5 Contractor's supervisors must be trained in the area of safety awareness and safe working practice. Only those who are trained in these areas must be employed. If at any time the supervisor is found to be untrained, he will not be permitted to enter the Refinery. For assistance in the area of training the contractor may contact the Fire & Safety Section of Refinery.

2. PROCEDURE GOVERNING ENTRY/ EXIT OF CONTRACTOR'S PERSONNEL INTO AND FROM REFINERY PREMISES:

In order to prevent accidents / explosions that may arise due to highly inflammable vapour present in the vicinity, following precautions and permissions shall be taken and procedures as laid down below shall be followed:

- 2.1 Identity Badges / Tokens:
 - i) All contractor's personnel must wear badges in visible position at all time.
 - ii) All badges will be issued by Owner's Security Section with PIN No. and then biometric cards will be issued based on PIN No. by Access control section after capturing labour's photo.
 - iii) Those not wearing badges will NOT be allowed entry into the Refinery.
 - iv) These badges/token shall be produced on demand to Owner's representative at any time.
- 2.2 Entry Procedure for Contractor's Personnel:
 - i) The contractor has to approach Pass/ER section for gate passes after authorization by the user/executing department.
 - ii) All contractors should register individually with PF/ESIC authorities and should use their own registration for all transactions related to their own contract workers.
 - iii) Contractors have to obtain Labor License form Labor department if they are engaging 20 or more contract workers. For obtaining Labor License, the contractor has to apply for Form V to Pass Section and after getting License from the Concerned Authority under the CLRA they have to submit the license to Pass section for further procedure.
 - iv) After license procedure is completed, the Contractor shall approach Pass Section for issuing labour passes after obtaining user/executing department recommendation. The Pass Section will scrutinize the following documents, generate PIN and issue photo identity gate entry pass to contractor labour / supervisor.

- a) Medical Fitness Certificate in prescribed form under Factories Act, 1948 i.e. Form 6.
 - b) Coverage of ESI for individual contract workmen.
 - c) Internal safety training number/ safety ID card issued by Learning Centre/ Fire & Safety department.
 - d) Police verification from concerned Authority.
 - e) Required documents to comply Migrant workers Act.
 - v) After Gate entry passes being issued by Pass Section, the contractor shall approach Access Control section where access control card is issued to the contract labour. Contractor has to pay requisite fees towards contract labour access control card and for contract supervisor's access control card. The contractor also has to pay requisite fees in case of loss of entry passes.
 - vi) The passes and access control cards as mentioned above are valid for 3 months and are to be renewed after every six month in case of Mumbai Refinery and every month in case of Kochi Refinery. During renewals, contractors are required to submit documents related to PF/ESIC contribution to Pass Section for the previous quarter/month.
- 2.3 Places of Entry / Exit
- i) Entry / exit for all will be through the authorized main gate only.
 - ii) Each contractor's supervisor must be present at the gates to give their respective men, the required badges and direct them to work location. The workers will move in one lot.
 - iii) Contractor's supervisors at the time of exit must collect all their men to take the whole lot of them out of the refinery at the same time.
- 2.4 Time for Entry / Exit and Days of Works:
- i) Normal entry : after 7.00 a.m.
Normal exit : before 5.00 p.m.
 - ii) Contractor employees will not be permitted to enter Refinery premises on Sundays and Refinery holidays.
 - iii) Where it is essential for contract work to continue beyond 5.00 p.m. or for work on Sundays and Holidays, BPCL site supervisor will arrange for necessary permission etc. by obtaining approval of Engineer-in-charge/ Security Officer on specified Form.
 - iv) No contractors workmen will be allowed to get out at any odd time without written authority from their supervisors and the workmen will have to produce the same at the gate along with the exit pass from BPCL site supervisor.
 - v) The CONTRACTOR shall ensure that his personnel/labourers are checked in/out by his authorized representative for which he shall keep proper records at the Company's main gate. In case the worker is not checked out by the Contractor/Supervisor in time further entry to the Refinery will be subject to clearance from Security/CISF.
- 2.5 Contractor's Material / Equipment:
- Any Material / equipments brought in by contractors the challans must be endorsed at the gate by Security Staff (CISF) and taken to the Authorized Representative of the Owner for checking before it is taken to site. When taking out of refinery the same has to be certified but the same Authorized Representative of Owner, and the material gate pass along with stamped challan giving a cross reference of the gate pass on challans will be handed over to security person at main gate.
- 2.6 Action by Security Section:
- i) Maintenance of record:

Security Section will keep a record of Contractor's men, who enter the refinery, for each contractor, and send copy to Industrial Relation's dept. This figure would be counter checked against the number of men going out.
 - ii) All contractor's vehicles including cars will continue to be checked at the gate.
- 2.7 Work procedure in the Refinery Areas:
- i) Contractor's supervisors/ mucadam should contact the BPCL's Authorised Representatives for clearance certificate, for the job, simultaneously indicating the number of men who will be deployed on the job.

- ii) The BPCL's Authorised Representative will arrange to obtain the Clearance Certificate from the department concerned.
- iii) Contractor shall prepare a sign Board giving the following details and display it near worksite.
 - a) Name of Contractor
 - b) Job Description
 - c) Date of start of job
 - d) Date of expected completion
 - e) Name of BPCL supervisor or Engineer – in-charge
 - f) Fire/Hot work Permit No.
 - g) Clearance Certificate No.
- iv) During major shutdowns, the above System may be modified.

2.8 Passes issued in the name of the Contractor shall not be used by workmen belonging to other contractor.

2.9 The CONTRACTOR shall return all the said badges/passes to the Security Section immediately on termination of the contract work.

2.10 If the contract period/time is extended, the CONTRACTOR shall get the badges/passes revalidated from the Security Section.

3. **VEHICULAR TRAFFIC REGULATIONS**

3.1 Contractor's Vehicles:

- i) Contractor's vehicles shall normally be parked outside the main gate. Owner shall assume no responsibility for the security for Contractor's vehicles.
- ii) Contractor's vehicles fitted with flame/ spark arrester shall be allowed inside Refinery Premises only if in possession of a valid vehicle pass. Passes for definite periods may be issued by security Department on recommendation by Owner's authorized representative.
- iii) Certain roads are not permitted or used by any type of vehicles. Contractor to make themselves aware of these traffic rules.

3.2 Traffic Regulations within Refinery :

- i) All vehicles entering or leaving the refinery must come to complete halt at the Security Gates, for checking by staff of Security / Department. Any person driving a vehicle in the refinery on being required by a member of the Security force, Safety or Transport officers, shall stop the vehicles and give his name and name of firm by whom he is employed.
- ii) Vehicle fitted with pneumatic or solid rubber tyres only shall be permitted on Refinery roads. Vehicles/ equipment fitted with steel tyres and / or vehicles/equipment drawn by animals are not permitted on Refinery roads.
- iii) While driving on Refinery roads, Contractors and their employees should drive cautiously keeping to left, and adhere to prescribed Refinery speed limits and follow all other traffic rules and regulations in force and observe road signs, failing which the driver / vehicle or both could be suspended. The maximum speed limit for motor vehicles within Refinery premises is 25 Km ph and 5 to 15 Km ph in certain areas.
- iv) Any one driving a motor vehicle within the Refinery premises must be in possession of a valid driving license. In addition to the above, a Safety Driving License/Driving Authority Certificate issued by Owner, is required for driving the motor vehicle inside the Refinery.
- v) Contractor's employees will use designated refinery entrances, and will proceed directly to the contractor's job site by way of refinery roads. They must not cut through refinery operating units.
- vi) Contractor's employees must not ride in Owner's vehicles, and the contractor should not transport Owner's employees in his vehicle.
- vii) Contractors and their employees should not park motor vehicles or other mobile equipment in any manner that will block fire hydrants, fire equipments, fire alarm or in any other way hinder access to or operation of fire fighting equipment, building exits, walkways, etc. and at least 200 M away from these spots. Motor vehicles should be parked in the prescribed parking areas only. Vehicles may also not be parked where they are likely to impede the movements of other vehicles in the Refinery and care must

be taken when parking near railway tracks to see that sufficient clearance is allowed between vehicles and locomotive / trucks. Drivers of vehicles must not attempt to move against shunter's signals.

- viii) All vehicles used on the Refinery must be in a mechanically sound condition and having a current vehicle registration.
- ix) No person shall ride on a vehicle, dangerously placed.
- x) All incidence of traffic violations within the Refinery premises are notified near the Main Entrance. The failure in observation of traffic rules will be strictly dealt with by Refinery Security Department.
- xi) Cycling / Motor-cycling on or through any operating area or into or through any buildings prohibited.
- xii) When a vehicle is parked inside the refinery, either driver or owner must occupy the vehicle so that in case of an emergency, the same can be removed without any problem from parked position. Keys shall be available in any parked vehicle so that it would be easy to shift/move the vehicle in case of an emergency.
- xiii) No two wheelers and petrol driven four wheelers of contractors are allowed inside Refinery areas.

3.3 Traffic Regulations for Operation of Cranes, Trucks, Load carrying Vehicles and other mobile construction aids etc.

- i) Contractor's trucks and other mobile equipments should be so constructed as to prevent material from falling off the equipment on the Refinery roads. If the material does fall from contractor's equipment, the contractor shall remove material from the street.
- ii) Material overhanging the ends or sides of a vehicle shall be marked with a red flag and particular care shall be taken for transportation, when unavoidable.
- iii) Contractors Equipment: Contractor's mobile equipment such as trucks, cranes, welding machines and like must be maintained in good conditions.
- iv) Contractors must not refuel diesel engine driven vehicles, transport equipment with the engine operating, even when stationary. When refueling is to be done inside the unit during turnaround, a special permission should be obtained from the Unit Head Operator.
- v) Drivers of mobile equipment including mobile cranes and other lifting and shifting equipment MUST NOT exceed speed limit of 10 kmph within Refinery.
- vi) No vehicle shall be loaded beyond its registered load capacity.

4. MOVEMENTS AND DISCIPLINE OF WORKMEN / USE OF FACILITIES OF OWNER:

- i) The Contractor is responsible for all employees working for him and all other persons calling on him or doing business with him in Refinery. He is responsible for explaining these instructions to his employees and securing compliances with them. A main contractor is responsible for explaining and securing compliance with Owners Safety rules and practices by any sub-contractor he may select.
- ii) Contractor shall ensure that his employees confine to the work place only and do not wander from their jobs site, nor loiter around refinery operating units, switch houses, pump houses, control rooms and wash rooms etc. They will not be allowed to relax or sleep in the operating units even in the period of work breaks. Plant areas, tank farms, loading areas, oil separator area, etc should not be visited by workmen other than those actually working in any of these areas.
- iii) Fighting or use of profane language or any kind of misdemeanor is prohibited. Tomfoolery and horseplay are forbidden.
- iv) Contractor will not be permitted to recruit men on the Company premises, or within a distance of 20 meter from the gates.
- v) Employment and entry of children are not permitted within the Refinery premises.
- vi) Only designated drinking water and toilet facilities may be used. Owner will allocate areas for contractor's facilities which should be maintained by Contractor in a clean and tidy condition.
- vii) On the first working day of every month, the contractor shall intimate to the Company the number of workmen on his payroll and assigned to the jobs in Refinery, including workmen's father's name and full addresses. These lists shall be kept updated throughout the month.
- viii) Use of Owner's Facilities:

Because of limited facilities, contractor's employees are not permitted to use the Refinery locker rooms, mobile canteen or sanitary facilities provided for owner's employees. Anybody found using them will be reprimanded.

- ix) Lost & Found

Enquiries pertaining to lost and found property may be made at the Security office. Article found by an individual are to be deposited in the Security office.
- x) Smoking is not permitted and is STRICTLY PROHIBITED in the Refinery.
- xi) Contractors and their employees are not permitted to carry cameras or take photographs without the prior approval of the Director (Refinery) or his authorized representative.
- xii) Carrying Mobile Phones in the operating area inside the refinery premises is strictly prohibited.

5. SAFETY REGULATIONS

5.1. General Safety Regulations:

- i) General:

Safety of Contractor's employees working for Owner on sites should be of the same high standards as that of Owner's own people. The following is a list of rules and regulations which must be observed by any contractor or his sub-contractor working in the Refinery, including other property / facilities outside, belonging to the company.
- ii) The contractors have to satisfy the provisions of Factories Act, 1948 and the Rules framed thereunder and other related Acts concerned to the running / construction of the factory/refinery.
- iii) The contractor shall take every precaution and provide the facilities necessary for the safety of all workmen employed and shall comply with the safety rules and regulations of the company.
- iv) Carrying of matches or any other means of ignition is strictly prohibited in the Refinery. Persons on entering the Refinery must deposit such articles at the security gates.
- v) No dry battery or accumulator type of electric hand lamp or torch which is not of the flame proof safety type shall be taken into the Refinery.
- vi) All persons engaged at the Refinery, if called upon, shall submit to be searched by the Company's recognized officials for the possession of articles prohibited under rule (iv) above. This search may take place at the time of entry to the Refinery or during the time when the employee is in the Refinery by the security staff.
- vii) Warnings and tags shall be placed pointing out hazards.
- viii) Hard safety hats shall be worn by all employees when assigned work in the Refinery operating area / unit before entering the unit to protect from head injuries.

Safety helmets: Contractors employees require the wearing of helmets under the following conditions:

- a) In Plant under shutdown maintenance.
 - b) In areas where maintenance is being carried out and in the opinion of the company's Engineer helmet should be worn.
 - c) On construction in plants and sites except during such time as the work thereon is restricted to the digging of foundations.
- ix) While walking, be on the side of the roads and the Central portion of the road should be left for vehicular traffic.
 - x) Resolve to keep good house keeping a habit. If the work place is tidy and the job is being done in neat manner, there are fewer interruptions, delays and above all it helps in controlling accidents. Job site of contractor shall be kept reasonably clean and free from rubbish and debris which, may create tripping of fire hazards. Remove grass/ shrubs whenever required to carryout the work in safe manner.
 - xi) Safety goggles, gloves, gumboots, aprons, hard hat and other safety equipment shall be used by the contractor's employee where, in accordance with Company's regulation, use of such equipment is prescribed. Company Representative/ Safety Section will specify safety equipment for all jobs.

Owner's representative will stop the work of contractor whose employees are found not to be wearing safety shoes, not using hand gloves and are not wearing hard hat. The work will be allowed to commence only when these employees are found wearing the Personal Protective Equipments.

- xii) Ladders / scaffolds / lifting tackle/ tools and equipment used by Contractor shall meet applicable safety codes and rules, unsafe tools and equipment shall not be used under any circumstances. In this regard, the decision of the Company Representative/ Safety Section shall be final.
- xiii) Oil, rags, cloths or any waste materials are dangerous fire and tripping hazards. Dispose off such materials immediately in the dust bins only.
- xiv) Fire extinguishers, water hydrants and steam hoses are there to extinguish fire and should not be used for cleaning tools, washing, etc. Free access must always be maintained to such equipment.
- xv) Do not wear oily clothes.
- xvi) Report oil leaks promptly to owner's operating personnel. Stop all the hot work in the surrounding areas.
- xvii) Do not leave tools, bolts, and other equipment in the walkways, on the beams or in any place where they will cause a tripping hazard.
- xviii) Do not turn on steam, water, electricity or set in motion machinery without permission and seeing that any one is in a position to be injured. Never remove a tag from any vessel without proper authorization.
- xix) Inspect walk planks, runways and ladders before use and keep them in good conditions.
- xx) Do not throw material from high elevation. Lower it by means of a rope.
- xxi) Cordon off all excavations and trenches to avoid falls, by fencing, barricading or otherwise and place a sign indicating the same.
- xxii) Never point compressed air or steam hoses towards employee / workmen.
- xxiii) No contractor will be allowed to work in the Electricity sub- station without a standby from Owner's electrical department.
- xxiv) Following completion of work, Contractor shall clean up job-site to Company's satisfaction.
- xxv) Debris shall be disposed off, at designated location(s). Metal scrap and salvageable materials belonging to the Company shall be moved to the Refinery Salvage Yard / Scrap Yard.
- xxvi) Contractor's employees shall not enter manufacturing units, office buildings or maintenance shops and store house premises without specific approval. They shall not leave their representative job site without prior approval.
- xxvii) Cutting across manufacturing units and maintenance areas is strictly prohibited.
- xxviii) Company Representative and Safety section are authorized to correct any conditions which they may consider hazardous. In an emergency, however, all Company Supervisors are authorized to act directly with Contractor's Supervisor or workmen without waiting for the Company Representative or Safety section. In these circumstances the Supervisor taking action must notify the Company's Representative or Safety Section immediately.
- xxix) All guidelines as mentioned in OISD Guidelines 207 shall be strictly complied with. Copy of the same is available with Fire & Safety section.

5.2 Work Permits System

5.2.1 For the safety of the employees and equipment, Owner has formulated a permit system which requires that no mechanical work be done, without obtaining prior written permit signed by the authorized person of the Owner. Such permits are valid only for the time and day on which they are issued and only for the specific job for they are issued. Blanket permits may be given by special authority. Every contractor must comply completely with this Safety Permit Procedure. Briefly this procedure required that no cold work be done without a daily clearance and that no hot work be done at any location within the Refinery without a daily Fire/Hot work and cold work permits.

A) Fire/Hot work Permits [Fire Permit in case of Mumbai Refinery and Hot work Permit in case of Kochi Refinery]:

- I a) The performance of work which
 - i) Constitutes a source of ignition
 - ii) Constitutes a potential fire hazards or

- iii) Interferes in any way with normal fire fighting operations, shall require an approved Fire/Hot work Permit.

Following is a list of specific works requiring Fire/Hot work Permits.

- i) "Hot" Work
 - a) Welding (Arc or Gas)
 - b) Gas cutting or Heating
 - c) Shot blasting
 - d) Soldering
 - e) Chipping grinding and drilling
 - f) Rivetting
 - g) Power wire-brushing
 - h) Gunting with machine
 - i) Forging
 - j) Burning
 - k) Use of Electric Hot Plates
 - l) Any work involving open flame
 - m) Excavation work
 - n) Cold Cutting of pipelines
 - o) Vessel Entry and Vessel Box up
 - p) Entry in tank pits or other confined space
- ii) Cold work include use of hand tools, pouring of concrete, operation of gasoline and diesel engine drive equipment and the like.
- b) i) Excavating Roads:

Contractors shall not make any underground road crossing without the specific prior approval of the Owner's representative. The Owner's representatives shall inform fire section accordingly, when so permitted an alternate arrangement for traffic will be made. Area dug-up will be kept with "Road Closed" barrier. As far as possible the road crossing must be back filled before the end of the days work.

An M.S plate will be kept alongside the road cutting for use of fire tenders in case of fire emergency and when the excavated area is not filled immediately, the plate will be positioned so that the traffic is not hindered.
- ii) Excavation Permit:

Any excavation within the limits of the Refinery whether carried out by earth moving Equipment or hand tools, requires and excavations permit. It must be signed by Owner's representative, in addition to the Fire/Hot work permit.
- iii) Electrical Permit:

For carrying out any electrical work, proper authorisation and permission is required from Electrical Maintenance including energizing /de-energizing certificate /Electrical permit. The contractor is not supposed to switch on / off any circuit connected to the electrical system or any work without emerging/ de-energizing certificate / Electrical permit.
- c) i) Entry of motor vehicles and equipment fitted with internal combustion engines into the unit limits of operating areas. All engine driven equipment used on plant must be securely fitted with approved exhaust spark arrestors.
- ii) Any work on oily water and intermediate sewer systems.
- iii) Making any opening in the fire bound – walls enclosing storage tanks.
- d) Before starting any work, the contractor must fill in the prescribed form for doing hot work and hand it to the Owner's representative. Person authorized to issue work and work permit will be intimated to the contractor by the Owner.
- II a) Fire/Hot work Permits are required for all locations in the Refinery other than those specifically exempted from this requirement.
- b) Fire/Hot work Permits are valid for the period mentioned therein and shall require renewal or extension by the issuing authority if work is to continue beyond the specified hours.

- c) Refinery operating personnel and officer-in-charge of Fire Service / Safety have the authority to withdraw any approved Permit and stop work should they consider a hazardous condition exists or is likely to exist during the course of the work.
 - d) Contractor's personnel assigned to the job requiring Fire/Hot work Permits shall conduct the job safely and abide by all precautions specified on the permit.
 - e) Fire/Hot work permits shall be endorsed by Fire Section, copy of which shall be retained by them and the original shall be in possession of Contractor's personnel actually working while work is in progress.
- III Issuance of Fire/Hot work Permit for carrying out Specified "Hot Work" does not permit smoking on Worksite.
- B) Safety Certificate/Cold Work Permit:
- a) The purpose of a "Safety Certificate/Cold work Permit" is to give written permission to a person to carry out work on a separate item of operating equipment or any facility belonging to an operating plant / area. The permit is to ensure that the equipment and area are safe to carry out the specific work.
 - b) Safety Certificates/Cold work Permits are required for the following:
 - i) All work of maintenance, repair, modification or construction nature performed in the operating areas and / on operating equipment inside storage tanks and farms.
 - ii) Entering a tank or vessel (For Safety from toxic and explosives).
 - iii) Carrying explosive and flammable materials within refinery.
 - c) Work Permits are valid only for the duration specified and will require renewal or extension by the issuing authority if work is to continue beyond the specified hours.
 - d) Work Permit must be signed by the Gas Safety Inspector/Officer-in-charge responsible for the operation of the equipment/ unit or area concerned.
 - e) Work Permit shall be endorsed by fire Section and copy of which shall be retained by them, original must be in possession of Contractor's personnel actually working while work is in progress.
- C) Clearance Certificate:
- The Fire/Hot work and cold work permits shall not be valid until a "Clearance Certificate" is obtained from the Charge Hand / Supervisor responsible for the operation of the equipment / unit or area concerned.
- 5.2.2 Free Areas:
- Under certain conditions, contractor's entire work areas may be fenced off and declared 'Free Areas'. In such cases, certain of the rules above may not apply. The Owner's representative will advise the contractor of the variations permitted in such cases.
- 5.2.3 In the event of hazardous conditions developing in an area where work is being performed. Work permits will be withdrawn by Refinery Operating / Fire and Safety personnel. Work thus suspended shall not recommence until the work Permits are re-issued.
- 5.2.4 Important Notes:
- a) No work involving HOT WORK or the opening of equipment and lines may be carried out in the refinery without a Fire/Hot work permit and a cold work permit and where necessary a gas certificate. All vessels such as tanks, columns etc. which have contained any inflammable liquids or corrosive chemicals may only be entered by a person after a Clearance Certificate and Cold work permit are issued.
 - b) All the conditions laid down in permit / clearance must be implemented in totality before start of job/activity and in case of any doubt the same shall be clarified with concerned BPCL supervisor in charge of the work. Contractor must keep his workers fully informed of the details and possible dangers of the job in hand in daily meeting conducted at respective site.
 - c) Workmen must not be allowed to enter any vessel, tank, pump, trench or drain without a work permit issued for the job stipulating the necessary precautions to be taken for the safety of the workmen. It is the responsibility of the contractor to see that the certificate is valid upto date before any work is to proceed.
 - d) Any job involving dangerous chemicals must be covered by a cold work permit, where such jobs required the use of protective clothing for the protection of the workmen; this will be supplied by the BPCL in certain cases and it is the responsibility of the contractor to ensure that his workmen wear the protective clothing.

- e) Electricity driven appliances such as drills, grinders, etc require a permit before they are to be used on plant plots, refinery roads, etc.
- f) In case the diesel generating sets are required to be used for any particular work, the contractor shall arrange for necessary, certificates for uses from Govt. Elect. Inspector. The wiring of DG set shall be with double earthing ELCB and approved by BPCL Engineer.
- g) All work in connection with roofs of building must be covered by a cold work permit and Crowling Board or Cat Ladders must be used with a Safety harness. On no account will any workmen be allowed to stand, walk or crawl over any roof.

6. PROCEDURES / REGULATIONS FOR SAFETY DURING EXECUTION OF WORK:

6.1 Materials Handling:

- 6.1.1 Accidents occur in handling materials because of unsafe working practices such as lifting improperly, carrying too heavy a load and failure to use personnel protective equipment.

Following directives should be adhered to:

1. Before lifting and carrying objects size the load and if necessary get help.
2. Survey that the route to be followed is free of obstructions.
3. Lift and carry in the proper position. Lift material with your leg and not your back.
4. When two or more men must carry a single object must have good coordination.
5. Make sure that object carried does not hit anybody or fall on someone working below.
6. While using mechanical hoists and cranes, test hoists, controls and brakes before starting the job.
7. Never carry loads over men working nearby. Signal them out of the way.
8. Move the load on signal from one person only.
9. While handling unusually heavy loads like exchangers and drum, use extreme caution.

- 6.1.2 The crane lifting tackles, slings, D'Shakles etc. used for the work at site shall comply with the statutory requirement and shall accompany with valid test certificates duly approved by statutory authority.

- 6.1.3 Contractors bringing any equipment into the Company premises are required to declare it at the security gates and obtain necessary endorsement on the challans from security department.

- 6.1.4 Any automobile or container, as well as, any Company or personnel property of any kind, brought into or carried out of the plant, is subject to inspection by the Security staff and government excise.

- 6.1.5 A gate pass issued by a designated representative of the company must be presented to the security for inspection of all materials, tools and equipment leaving the premises of the Company alongwith the stamped challans as mentioned in clause 6.1.3.

- 6.1.6 Transporting material from one place to another by a forklift, Escort, Hydra or mobile cram is prohibited. Material must be transported on trailer, truck or handcart of adequate capacity.

- 6.1.7 Handcart must of good mechanical construction, sound material and adequate strength and must be declared safe to use by competent and authorised person. Display the name of the contractor who owns it. Record of all the Hand carts should be properly maintained which shall include details of purchase, repairs carried out time to time by authorised person. Hand carts must not be used with defective wheels or other body parts. Defective hand carts should be discarded from the system and record of such discarded hand carts should be properly maintained in prescribed manner.

- 6.1.8 Over-hanging loads whether on the sides or at the rear of the hand cart or any vehicle is dangerous and particular care must be exercised.

- 6.1.9 Trained and experienced riggers only must carry out material handling.

6.2 Owner's /Contractor's Equipment, Machinery and Construction Aids:

6.2.1 Use of Owner's Equipment:

- i) Owner's equipment must not be handled or tampered with by contractor's employees. Owner may grant permission to contractor to operate his equipment. If conditions so require, but contractor shall not use Owner's equipment and tools without obtaining express permission from Owner's representative.
- ii) Contractors shall assume full responsibility for proper care of Owner's equipment and tools which are made available to them for the execution of their work and returning such equipment and tools in good working order. Owner will recover from Contractors full cost of repairs to or replacement of equipment or tools in the event they suffer damage (due to abuse) while in Contractor's custody.
- iii) Contractors are not permitted to make use of the Company's transport.

6.2.2 Tie-in to Owner's Equipment:

Contractor shall not open or tie-in their work into Owner's existing pipeline or equipment including Owner's sewer systems, electrical power circuits, and other process equipment without specific approval by the Owner's representative.

6.2.3 Underground Pipes:

When doing work in the refinery involving excavations, contractors must not damage or break into otherwise open any underground piping. Extreme care must be exercised in this respect when excavating, with power-driven equipment. If lines are damaged inadvertently, notify the owner's representative immediately.

6.2.4 Electrical Cables:

All underground electrical circuits within Owner's Refinery are identified by a layer of red concrete above the cable. Under no circumstances any contractor removes a red concrete nor excavate beneath red concrete. Nor in any other way expose Owner's electric circuits without specific approval of the Owner's representative. In every case, when a contractor discovers red concrete in the area of his excavation work, he must immediately stop any further excavating until he has contacted the Owner's representative and secured his specific approval for continuing the job.

6.2.5 Safety Equipment/Personal Protective Equipment (PPE):

- i) Contractors must issue all the necessary PPE's including Safety helmet, safety shoes, hand gloves, boiler suit etc. of standard quality to all their employees and ensure that the same are used by the employees while working in the Refinery. Contractors Safety Supervisor shall maintain proper records regarding issue of these PPEs to their workers. Permission to work is liable to be denied unless contractor employees use the above PPE's.
- ii) Double lanyard IS marked safety harness must be provided by the Contractor to his workmen for working at a height.
- iv) Respiratory equipment when prescribed for use shall be issued by BPCL on loan.
- iv) Also the PPE's supplied by the contractors to its employees are to be daily checked by the contractor to ensure proper quality. Surprise checks by BPCL site engineer shall be carried out on such PPE's and if found defective, shall be summarily rejected.
- v) All contractors must return the safety equipment loaned to them as soon as the work is completed. Loss or damage to this equipment will be charged for by deducting money from their bills.
- vi) All necessary personal safety equipment as considered adequate by the Engineer-in-Charge, should be kept available for the use of the persons employed on the site and maintained in condition suitable for immediate use, and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.
 - a) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves.

- b) Those engaged in white washing and mixing or stacking of cement bags or any materials, which are injurious to the eyes shall be provided with protective goggles.
 - c) Those engaged in welding and cutting works shall be provided with protective face and eyeshields, hand gloves etc.
 - d) Concrete/stone breakers shall be provided with protective goggles and protective clothing, and seated at sufficiently safe intervals.
 - e) When workers are employed in sewers and manholes, which are in use, the contractor shall ensure the manhole covers are open and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or board to prevent accident to the public.
 - f) The Contractor shall not employ men below the age of 18 and women on the work of painting with products containing lead in any form. Whenever man above the age of 18 years are employed on the work of lead painting, the following precautions shall be taken:
 - i) No paint containing lead or lead product shall be used except in the form of paste or ready made paint.
 - ii) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a suitable surface having lead paint dry rubbed and scrapped.
 - iii) Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash them during and on cessation of work.
 - vii) When the work is done near any place where there is a risk of drowning, all necessary safety equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of injuries likely to be sustained during the course of the work.
- 6.2.6 Work of private nature using company or contractor's equipment and / or materials is not performed on the refinery site by either contractors or company employees.
- 6.2.7 Mechanically propel equipment such welding machines and air compressors must have markings on its controls, so that any person unfamiliar with the equipment will know exactly where and how to stop in the case of emergency.
- 6.2.8 Gas Cutting Equipments:
- i) Acetylene/Bharat Cutting Gas, oxygen cylinders must not be taken inside closed vessel or on tank roofs under any circumstances neither may acetylene/Bharat Cutting Gas torches connected with the cylinders or generators be left inside any vessel. Torches must always be taken outside the vessel for lighting and when not in use.
 - ii) Protective valve caps must be placed on all cylinders (oxygen, acetylene, Bharat Cutting Gas etc.) at all times except when in use. Gas cylinders should never be dropped especially from trucks or platforms or rolled on as means of transportation. Gas cylinders must never be hoisted aloft by slings. A proper carrier must be used.
 - iii) Oxygen must never be used as a substitute for compressed air nor must it be release in a confined space for any reason.
 - iv) Oil or grease must not be allowed to come in contact with oxygen cylinders, regulators or hose.
 - v) Compressed gas cylinders must never be stored or placed near hot equipment or lines. They must be protected against high temperatures and contact with electrical circuits. They must also be protected from damage by passing or falling objects. When cylinders are not connected for use, safety caps must be in place.
 - vi) Compressed gas cylinder must never be dropped or struck or permitted to strike each other violently. Damage to the cylinder or its valves could result in disastrous jet propulsion of the

cylinders and may result in major accidents/fatalities. Compressed gas must be transported with the help of trolleys.

- vii) Oxygen and other gas hoses should be without any joint. In the event joint essential, only approved connector with jubilee clips must be used.
- viii) Two stage regulators with two gauges only must be used.
- ix) All gas cutting torches such as oxy-acetylene cutting torch shall be fitted with an approved flash back arrester.
- x) Oxygen and Acetylene / Bharat Cutting Gas cylinders should not be kept together. Bharat Cutting Gas /Acetylene cylinders are to be stored in upright position.
- xi) Flammable products like Acetylene/Bharat cutting gas should not be stored in quantity more than 99 Kgs in your store or at site

6.3 LADDERS AND SCAFFOLDS:

6.3.1 Ladders:

Most accidents are caused by the ladders falling or the climber losing his balance. Some of the safe practices to be observed are listed below:

- i) Make sure the ladder is not defective or broken.
- ii) All ladders used must be of sound construction and the right length for the job in hand. A ladder must extend 1.0 meters above the point of landing. Short ladders must not be tied together to give greater lengths. All ladders should be tied to the structure on which they are resting to prevent from slipping. If they cannot be fixed with reasonable security, a worker must be stationed at the base of the ladder to foot it to prevent slipping. No ladders must be used which have missing or defective rungs or rungs that depend for their support on nails, spikes or similar fixing. Such defective ladders should be discarded from the system and record of such discard should be properly maintained in prescribed manner.
- iii) If the floor in which ladder is to be placed is slippery or loose, tie ladder to the base or have some one to hold it. Rest the top of the ladder on solid base.
- iv) Make sure that the ladder is placed at a safe angle, so that it does neither slip nor fall back viz. not more than $\frac{1}{4}$ length in use, in perpendicular with point of contact at the top.
- v) Always face the ladder and hold on with both hands, whether climbing up or down.
- vi) Carry tools and other objects in suitable packets or have the materials hoisted with rope and buckets.
- vii) Muddy or otherwise slippery shoes should be cleaned before climbing. Ladders are primarily a means for ascending or descending from one level to another. They should not be used as working base except in an emergency or for short periods of time. Where a job requires tools and materials for considerable duration of time, a platform ladder or scaffold is to be used.
- viii) Contractor employees working at high elevated structures in the unit, must make use of normal routes for climbing and descending wherever provided. They should avoid the use of pipes or some other means to save time and energy.
- ix) Metal ladders may not be used for electrical work, nor may this type of ladder be used anywhere near electric circuits or equipment.
- x) Ladders must be carefully lowered and not be dropped on the floor or any other object of structure.
- xi) When climbing on ladders or structures, carry tools or materials in tools bags so as to provide free use of your hands.
- xii) Keep clear, of all suspended loads.
- xiii) Record of all the ladders should be properly maintained which includes details of purchase, repairs carried out time to time by authorised person.

6.3.2 Scaffoldings:

- i) Scaffolding must not be overloaded and materials should not be taken on that unless needed for work within a reasonable time. Every scaffolding must be of sound construction and adequate strength for the purpose for which it is used. Metallic boards used in scaffolds should be carefully inspected and should be tied on both sides with ropes to the pipes. Scaffold pipes should not protrude out in the pathways.
- (ii) All work at a height above any reasonable height must be carried out with proper platform/scaffoldings made of steel pipes. The design and requirement of scaffolds should be as per IS specifications or scaffolding procedures contained in BPCL Fire and Safety regulations and as per ROS 94 in the case of Kochi Refinery. All scaffoldings must have proper platforms made out of metallic boards without any gaps in between, so as to prevent falling of loose materials. Hand rails, mid rails and toe boards as specified in the scaffolding procedure shall be provided.
- iii) Don't use the scaffold until the same has been certified as Safe to work and a "Safe to work" tag / board have been displayed on the scaffold.
- iv) The men working on the actual erection / dismantling of the scaffolding and all persons using the scaffolding must use safety helmets. Safety harness which must be anchored to an adequate part of an independent permanent structure i.e. of adequate strength to support the weight of the man in the event of a fall. Ropes for hoisting, lowering men for the safety harness, lifelines etc., must be of good construction, sound material, adequate strength and free from latent defects and shall be tested and certified by competent person as prescribed in Factories Act, 1948 and Rules framed thereunder.
- v) The scaffolds should be provided with short climb ladders for safe ascending / descending of workmen on the job.
- vi) Scaffolding or staging more than 4 meters above the ground or floor, swing suspended from an overhead support or erected with stationary support shall have a guard rail properly attached / bolted / braced and otherwise rewarded at least one meter high above the floor or platform of such scaffolding or staging and extending along with the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- vii) Every opening in the floor of the building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 meter.
- viii) Working platform, gangways and stairways should be so constructed that they should not sag unduly or unequally and if the height of the platform of the gangway or the stairway is more than 4 meters above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (vi) above.
- ix) Safe-means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length while the width between the side rails in rung ladder should in no case be less than 30 cms, for ladder upto and including 3 meters in length. For longer ladder this width should be increased at least 5 mm for each additional foot of length. Uniform steps spacing shall not exceed 30 cms. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed to cause danger or inconvenience to any person / public.
- x) The contractor shall also provide all necessary fencing and lights to protect the worker and staff from accidents, and shall be bound to bear the expenses of defence of every suit, action or other proceedings of law that may be brought by any person for injury sustaining owing to neglect of the above precautions and pay any damage and costs which may be awarded in any such suit or action or proceeding to any such persons or which may with the consent of the contractor be paid to compromise any claim by any such person.
- xi) Use of bamboo scaffolding in the refinery is prohibited. Use of wooden planks on scaffolds is also prohibited. In such cases only metallic planks of good construction, sound material and adequate strength and free from defects are to be used.

6.4 Work Overhead / Hoisting Equipment:

- i) Employees involved in handling any material overhead pulling out exchanger tube bundles etc. are responsible for installing the necessary barricades, warning signs or taking any other steps necessary to prevent person from walking beneath the load. Employees should also look out for such overhead work.
- ii) Never stand below a suspended load.
- iii) Employees should avoid getting too close to a load or cable that is under particular strain.
- iv) Before using chain blocks, cable sling, rope or any other material handling equipment it is to be checked to make sure it is not defective. Exposure to corrosive chemicals calls for particular attention.
- v) If handrails are temporarily removed from platforms, stairways etc. employees should protect the resulting opening by extending rope line or by any other suitable device.
- vi) Contractors are responsible for safeguarding their workmen on all overhead work and to ensure that ladders and scaffolding are of suitable construction and properly erected. Contractors must also take precautions to safeguard persons on ground level against objects falling from the work above.
- vii) Use of hoisting machines and tackles including their attachments, anchorage and supports shall conform to the following standards or conditions.
 - a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good working order.
 - b) Every rope used in hoisting or lowering materials or means of suspension shall be of durable quality and adequate strength and free from latent defects.
 - c) All parts including the working gears whether fixed, movable of every lifting/hoisting machine and every chain, rope or lifting tackle shall be of good construction, sound material and adequate strength and free from any defects and properly maintained, thoroughly examined by a competent person at least once a year or such intervals as may be required by Statutory Authorities. A documentary proof of such examination must be maintained and produced to BPCL supervisor before using such equipment.
 - d) Every crane driver or hoisting appliances operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to the operator.
 - e) In case of every hoisting machines and or every chain ring hook, shackles swivel and, pulley block used in hoisting or lowering or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gears referred to above shall be plainly marked with the safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - f) In case of departmental machine, the safe working load shall be notified by the Engineer-in-Charge. As regards contractors machines the contractor shall notify the safe working load of the machine to the Engineer-in-Charge and get it verified by the Engineer concerned.
 - g) Hoist and lift if used shall be:
 - Of good mechanical construction, sound material and adequate strength.
 - Properly maintained and shall be thoroughly examined by a competent authority at least once in every six months. A register shall be maintained to record particulars of such examination and shall be produced to the BPCL supervisor before use.
- viii) Motors, gearing transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guards. Hoisting appliances should be provided with such means as to reduce to the minimum accidental decent of the load, adequate precautions should be taken to reduce to the minimum, the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, insulating mats, wearing apparel, such as gloves, sleeves, boots as may be necessary should be provided. The workers shall not wear any rings, watches and other materials which are good conductors of electricity. The person authorising the work will ensure that the crane is made inoperative by cutting off the power supply. This should be properly documented by electrical energising/de-energising clearance certificate /Permit.

- ix) All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- x) Walking on pipelines is prohibited.
- xi) Permission must be obtained from the supervisor before any person is allowed on a fragile roof.
- xii) When working on fragile roofs, proper boards must be used to support your weight-crawling boards or cat ladders.
- xiii) Materials of any kind should not be thrown from or to any height. In the event of such a procedure is necessary the particular areas must be fenced to keep other persons in the clear.
- xiv) It is recommended for specially trained workmen to perform the following types of jobs with the use of Safety Harness.
 - a) Carpenters/Riggers erecting scaffolds or performing other phases of carpentry work.
 - b) Riggers performing rigging work.
 - c) Structural steel workers.
 - d) Experienced painters.
- xv) When work is being done which requires the wearing of a Safety Harness, the Supervisor in charge shall determine whether a standby personnel is needed. If he decides that standby is necessary, then he will be provided a suitable man or men.
- xvi) In addition of the requirement for wearing Safety Harness at locations where there is a danger of falling, all employees shall wear a Safety Harness when working with Gas Masks or Air Line Masks or where they are otherwise exposed to condition which might lead to their being overcome. Particular attention to this rule must be made when men are engaged in enclosed places.
- xvii) When men are using Safety Harness in elevated places, the end of this rope must be tied securely to some structure or other support which is independent of the equipment on which the man is working.
- xviii) When a truck is being loaded with a crane, employees should get out of the truck and in the clear of the crane, so as not to be injured by any material falling from the crane bucket.
- xix) When men require to work on or near the overhead cranes, the job must not commence without proper authorisation for such work. The person authorising the work will ensure that the crane is made inoperative by cutting off the power supply. This should be properly documented by electrical energising/de-energising clearance certificate. He will also ensure that all requirements for the safety of the men are carried out.

6.5 Electrical Switches / Machines / Cables etc.

- i) Switching on any circuit connected to the electrical system or any work whatsoever, on a circuit connected to the electrical systems, should not be carried out without specific permission from Maintenance Manager.
- ii) When electrically driven pumps, compressors, etc. are shutdown for repairs the electrical circuit must be isolated before repairs commence.
- iii) For maintenance work inside vessels or tanks which are gas free, a low voltage transformer must be used on the electric light extension cord. The voltage must not exceed 24 volts.
- iv) No portable hand light is to be used in any location, unless explosion proof and provided with explosion proof globes and metal guards.
- v) The voltage for Portable Power Tools must not exceed 50 volts. In cases where Power Tools are rated above 50 volts, a stepdown transformer must be used.
- vi) Light globes and bulbs must be renewed only by the Electrical Section.
- vii) All air, water, oil and steam hoses must be properly grounded when in operation.

- viii) If temporary power supply has to be taken for construction purpose the prior approval shall be taken from Engineer-in-Charge for the same and tapping shall be taken from construction power supply booth, which shall be constructed by contractor as per BPCL std/requirement. Supply arrangement shall invariably have protective equipment like ELCB.
- ix) The electricians to be deployed on the job should have Wireman License issued by Statutory Authority.
- x) Use of synthetic / nylon clothes may generate static electricity; hence its use should be avoided.
- xi) Consider all electrical wires with defective insulation as live and dangerous.
- xii) All the items of machinery having certain electrical equipment / component may be checked as to the soundness and health of electrical system and records of the same shall be maintained in prescribed manner. Similarly any unsafe, unsatisfactory, dangerous electrical equipment will not be permitted to be utilised in Refinery premises.

The following conditions shall be followed:

A) CONDITIONS FOR 440 V SUPPLY:

1. 440 V supply from distribution system will be given by authorised electrical personnel and receive in a separate switch board of approved quality (approved by BPCL personnel) by the contractor appointed for the job.
2. The switch board and the electrical arc welding machine should be properly cordoned off or fenced so that no unauthorised person can go inside at any time.
3. The supply should be switched on for electric arc welding only at the time of welding by authorised persons.
4. Whenever the electric arc welding machines are on, one person has to be attending on them so that in case of emergency the main power can be switched off.
- 5) At the close of work, the 440 V supply to the switch board should be switched off and the fenced area locked up.
- 6) Welding machine ground connections must be firmly made on or as close as possible to the job being carried out where a good ground is available.
- 7) Temporary power lines to portable arc welding machines must be carried overhead whenever practicable, or otherwise laid on the floor or ground suitably protected so that they cannot be damaged or interfere with safe passage.
- 8) When plugging in or removing 440 volts arc welding machine connections, the power supply lines must be disconnected first to prevent a flash and a visual check must be made of a 440 volts receptacle for ground.
- 9) Welding cables must be maintained in good condition and repairs made as soon as insulation shows signs of cracking. Cable joint must be permanent and sound. Make shift in this regard is prohibited.
- 10) Necessary precautions must be taken to protect against electrical shocks when working in wet or damp places. Welding machines must be suitably protected against rainwater entering in it and causing short circuit. No welding shall be done in wet surrounding and when personal protective equipments of welder are wet.

B) CONDITIONS FOR 230 V SUPPLY FOR PORTABLE TOOLS:

1. All 230 V portable tools shall be inspected / certified by electrical maintenance prior to taking to site for use.
2. Electrical connection shall be taken from a metal clad extension board having a ELCB 30mA sensitivity as incomer / isolator.
3. From extension board to the point of use, flexible cable for tools should be routed overhead, in extreme unavoidable circumstances when cable has to be laid on floor or passing in manholes same should be laid through PVC flexible pipe for extra mechanical protection.

6.6 Demolition:

- i) Before any demolition work is commenced and also during the progress of the work.
 - a) All roads and open areas adjacent to the worksite shall either be closed or suitably protected.
 - b) No electrical cables or apparatus which is liable to be source of danger shall remain electrically charged.
 - c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

6.7 Confined Space Safety:

- i) Working in confined space is highly dangerous and must be carried out as per the work permit condition and under very close supervision.
- ii) No work in any confined space shall be carried out without a valid permit and clearance certificate. **No entry** board shall be displayed when equipment like columns, vessels are opened for work till clearance for entry is given after gas testing. Safe to enter board shall be displayed the person giving the clearance for the entry after conducting necessary tests.
- iii) Before entry into any confined space proper tests for hydrocarbon, toxic gas, oxygen level must be carried out by BPCL authorised person. Adequate means of entry and exit must be provided. Adequate light must be provided inside the confined space with max.24 V.
- iv) Ventilation as required to extract welding fumes, dust etc must be provided as prescribed in the permit. Minimum 19.5% oxygen must be available in the confined space for entry and work.
- v) Never enter a confined space without provision of standby personnel. Stand by person should be aware of BPCL emergency handling procedure and adequately trained in rescue operation.
- vi) Use life harness, one end of which shall be held by the standby personnel outside. Use all personal protective equipment including fresh air hose mask if hydrocarbon gas concentration is more than 5% of Lower Explosive Limit (LEL).
- vii) No one shall enter any confined space even with a supplied air respirators if the gas concentration is more than 20% of LEL.
- viii) No one shall be allowed to enter a confined space if hydrogen sulphide or other toxic gas is present.
- ix) Emergency equipment as required must be kept ready and in good condition.
- x) Portable lights used in confined space shall not exceed 24 Volts.

6.8 Requirement of Supervision:

- i) Upon award of the contract and prior to commencement of job, the contractor shall furnish "BIODATA" of all their Supervisors and skilled or un-skilled workers. All personnel deployed by contractor for the job must have completed safety training conducted by BPCL.
- ii) Contractor shall deploy qualified and experienced supervisors and other manpower, which are well conversant with the safety regulations of the Refinery. The contractor shall employ only medically fit personnel for the jobs.
- iii) Contractor will not carry out any work without having a supervisor present at site. If it is required to work simultaneously in more than one location under the same contract, one supervisor must be put in each of the locations. If a supervisor has to leave his site for any reason, he must stop his site activities for that period of time.
- iv) Contractor must provide at least one full time on site safety coordinator when the contractor has engaged manpower in excess of 50 in contract activities in the Refinery. If the manpower is less than 50, on site safety co-ordination responsibilities shall be assumed by anyone of the contractor's other supervisory staff. In both the cases, the contractor must specify in writing the name of such persons to the Engineer-In-Charge.

- v) Contractor's Safety Supervisor so appointed will work under the guidance of BPCL safety Officer, shall have to attend all scheduled safety meetings whenever called for and implement the safety measures discussed in such meetings.
- vi) Contractor's safety supervisor or the supervisor responsible for safety, shall maintain separate safety register which will include 1) List of activities being carried out at site; 2) Safety Training details of all supervisors and workmen; 3) Records of all accidents, first aid cases and near misses; 4) Records of all PPE's being used at site; 5) Records of lifting tools and tackles including slings of all types; 6) Records of pressure vessels if any at his site; 7) Records of all welding machines, gas cutting sets, compressors, generators, pressure regulators, portable power tools, hand tools etc. 8) Copies of safety inspection reports made by the Contractor safety supervisor as well as by the BPCL refinery.
- vii) Contractor must ensure that all his supervisors are properly trained. Document is to be maintained showing that each employee has received and understood from his supervisor necessary training. The record should contain the supervisor's name who has provided training to the employees, employees name who has received training, date of training, topic and the means used to verify that the employee has understood the training.
- viii) Contractor's safety co-ordinator or his supervisor responsible for safety as the case may be, shall conduct at his work site and document formal safety inspections and audits at least once in a week. Such documents shall be submitted to Engineer-in-charge and BPCL safety officer for his review and record.
- ix) Before starting work under any contract, the contractor must ensure that a job specific safety procedures/ field practices as required over and above the safety permit conditions are prepared and followed. He should also ensure that all supervisors and workers involved understand and follow these procedures/field practices.
- x) Contractors must ensure that in his work site:
 - a) Appropriate display boards are put displaying signs for site safety, potential hazards and precautions required.
 - b) Safety performance display boards are provided.
- xi) Contractor shall put all efforts to deploy minimum manpower to execute the jobs in stipulated time by using modern techniques and mechanization.
- xii) The contractors whose safety records are not satisfactory will be viewed seriously and necessary action (viz. cancellation of Registration/Contracts) shall be taken against the Contractor.

7. EMERGENCY PROCEDURE:

Emergency may occur in the nature of fires or explosion or accidents. If the contractor's employees notice any oil leak or fire, he should immediately report to Owner's representatives. Whenever the Emergency Alarm or the Fire Alarm blows, the contractor's employees should immediately stop their work, shut off the engines, such as welding machines and leave the affected unit immediately. Also those using fire water for any purpose must immediately stop using the same and must shut off the hydrant valve from which water being taken. Only when the all clear is given by the Owner personnel should they return to their work. Fresh permits should be taken before commencing work.

7.1 Fire Reporting and Control:

- i) In the event of any Contractor's employees spotting a fire in the Refinery premises, he shall dial 101 / 3333 (in case of Mumbai Refinery), identify himself and report location of fire when Fire Station operator is on line. He shall wait until the fire message is repeated by the Fire operator on board and location confirmed.
- ii) In the event of a fire in the Refinery, the Refinery siren will sound straight run for ½ minutes for minor and wailing siren for 3 minutes for major, in case of Mumbai Refinery. For Kochi Refinery, the siren will sound for 2 minutes with an interval of 10 seconds for major fire.
- iii) Action by contractors in the event of a Major Fire Alarm:
 - 1. Contractor personnel under direct supervision of BPCL:

On sounding of a general alarm siren, contractor's personnel within the premises will carry on their normal work unless they are directed otherwise by their BPCL Supervisors.
 - 2. Contractors personnel under contractors direct supervision.

- a) If not in the immediate vicinity of the incident, he is to keep his men working as normal.
 - b) If in the vicinity of the incident, check the number of his workforce immediately, the Fire Siren sounds. If any of his personnel are missing then he is to report this to fire station control room.
 - c) If in the vicinity of the incident where all his men are present, he is to assemble them all at a safe distance from the incident, preferably on a road side and wait direction from his normal BPCL supervisor.
 - d) Under no circumstance, must the contractor's supervisor allow his men to take part in any emergency action unless so required by a BPCL's supervisor.
 - e) Any contractor who is driving a vehicle when the Fire Siren Sounds should park his vehicle at a suitable location away from the site of fire.
- iv) The "All Clear" Signal is the steady sounding of the Refinery Fire Siren for one minute.
 - v) Contractor Personnel working at Refinery Premises should be given demonstration and should acquire knowledge of fire prevention and should be able to make use of the fire extinguishers.
 - vi) When a fire extinguisher is operated for firefighting purpose or inadvertently, advise Fire Station immediately so that extinguisher may be replaced.
 - vii) Any employee contravening the Fire Regulation is liable for instant removal.

7.2 Reporting Accident / Injuries and Records:

- i) According to the Factories Act and the Employees' State Insurance Act and Regulations, any worker sustaining an injury/injuries as specified in Factories Act 1948 and Rules framed thereunder in the Refinery and absenting himself from work for more than 48 hours, his accident report has to be sent to the respective Government authorities within a stipulated time.

To comply with these regulations, it is the responsibility of the contractor to inform immediately to Owner's representative regarding any such accident which may have to be declared as Lost Time Accident which may occur to his employee while working in the Refinery premises. The Owner's representative will then direct him to Safety section for necessary action within a stipulated time.

If any contractor employee is referred to an outside hospital as a result of an injury suffered by him and whether hospitalisation is required or not, the contractor will keep IR Dept. and Safety Section posted on day to day basis about the status of the injured person and his progress.
- ii) Contractor shall be responsible for keeping and maintaining proper records of Accidents of his personnel and shall be produced whenever asked for.
- iii) Any injury, no matter how slight, must be reported to the supervisor immediately and treatment obtained. Also contractor must fill in First Information Report (FIR) within stipulated time from the incidence (Forms are available with Safety Section).
- iv) Should any person be splashed with acid, caustic or other chemicals, wash with water and report immediately to Medical Centre / Occupational Health Center for attention.

7.3 First Aid / Treatment of Injuries:

- i) In the event of any injury sustained by any of contractor's employees within Refinery Premises, FIRST-AID should be immediately made available to him.
- ii) A knowledge of first aid and how to apply artificial respiration is very useful to all works.
- iii) Facilities for treatment of injuries (FIRST AID) are available at all times at the Company Medical Centre/ Occupational Health Center. Injuries should be treated with a minimum of delay. Personnel are advised to follow the advice given by the Medical Centre/ Occupational Health Center for the subsequent treatment.
- iv) In the event, the injured person is referred for outside treatment, the contractor to make all arrangement for proper care. The contractor shall obtain fitness certificate after the injured person declared medically fit by the doctor/hospital under which he was receiving medical treatment and endorse the same by the

Refinery Medical Center / Occupational Health Center. The contractor shall inform the Engineer-in-charge in writing when the injured person resumes work.

- v) Medical Treatment and / or hospitalisation of Contractor's personnel shall be arranged by Contractor at his own expenses.
- vi) Company ambulance is not available for Contractor's employee except with prior permission from the Company.

8. SAFE PRACTICES FOR INDIVIDUALS:

- 8.1
 - i) Where walkways are provided use them instead of short-cuts. If you must use the roadway keep to the right so you will face any approaching vehicle.
 - ii) As a protective measure employees must not walk through or cut across any operative units unless their duties require them to do so.
 - iii) Walking on or over any mechanical or roller conveyor is strictly prohibited.
 - iv) Employees should not walk on rail road tracks if it can be avoided.
 - v) Passing under railway wagon as a short-cut is dangerous and strictly prohibited.
 - vi) It is prohibited for any person to ride on the running board of any vehicle or any part of the vehicle without being properly seated.
 - vii) All stairways, platforms and walkways must be kept clear at all times.
 - viii) Make shifts of any kind are prohibited.
 - ix) Umbrellas are not permitted to be used while cycling.
- 8.2
 - i) Before starting a job be sure you know how to do it. If any doubt, consult your supervisor.
 - ii) Do not touch or attempt to operate or set in motion any machine or equipment, which you are not assigned to operating or repairing.
 - iii) Only the authorised personnel may operate any switch-gear apart from routine stopping and starting of motors and lighting.
 - iv) Never look directly into the arc produced when welding without proper eye protection.
 - v) When starting any steam pump or machine, make sure the exhaust steam heads are drained, so that hot water will not be sprayed out creating a hazard.
 - vi) Protruding nails should be pulled out or bent over.
 - vii) Goggles or Shields must be used when working on emery wheels, brushes, chipping etc..., or any other circumstances where there are possible eye hazards.
 - viii) Gloves must never be worn while grinding materials on an emery wheel. Gloves are not provided to keep hands but to protect against abrasions, silver corrosives and extreme temperatures. Gloves should not be used when operating machinery without sanction from Section Head.
 - ix) When working around moving machinery, the wearing of loose clothing such as Dhotis, lungies etc. is prohibited.
 - x) Learn the right way to lift so as to avoid strain. Bend your knees, keep your body erect, and push upward with your legs.
 - xi) All the tools to be used on job should be of good quality and good condition. Defective tools are dangerous. Do not use them. Never use a tool except for its purpose.
 - xii) Do not leave tools or materials where they may accidentally drop on persons below.
 - xiii) Do not tamper with or attempt to repair instruments. Only instrument technicians are permitted to work on instrument.

- xiv) Process Technicians must always be stand on the windward side when taking samples, bleeding or draining lines or equipment.
 - xv) No work should be started on oil, chemical, gas, steam, air, sewer, or water lines or equipment carrying these before a clearance certificate is obtained from Ops. Dept.
 - xvi) Shift employees must not leave their jobs until the men who relieve them are properly advised of all operating conditions.
 - xvii) When work is completed, all left over junk and tools are to be removed to the proper places.
 - xviii) NO WORK is to be started until all permits are obtained.
 - xix) If an object is too heavy for you, get help.
 - xx) Watch your hands and footing when you are handling heavy objects.
 - xxi) The use of safety shoe is mandatory.
 - xxii) Finger rings should not be worn.
- 8.3
- i) If you become aware of an immediate hazard such as unexposed escape of petroleum products, gas etc. see that the work in surrounding area is immediately stopped. Your prompt action can prevent injury to others. If any gas leaks occurs signs must be placed on road to keep automotive equipment away from contaminated area. Fire Section should be informed immediately.
 - ii) Safety is your responsibility and not the responsibility of that imaginary someone else. All conditions that may affect the safety of employees or equipment must be reported at once.
 - iii) Lines or equipment must not be purged with compressed air.
 - iv) Compressed air or gas must not be used for cleaning or blowing dust out of clothing or for pressure testing within refinery.
 - v) Never points an open hose at another person.
 - vi) Drums, full or empty may not be used as work benches or supports for any job, or in place of ladders.
 - vii) All drums must be clearly marked as to their contents.
 - viii) Do not hesitate to suggest any additional guarding for improvements to existing guards that may make for added safety.
 - ix) Excavations in any area including the BPCL residential colony and BPCL sports ground must be suitably protected and marked. This also applies to any trench or drains which has a cover removed. During unit shut-downs if ladders, grating or hand rails are removed, safety ropes must be placed around the opening to eliminate the danger of fall. Before starting excavations of any description in the refinery or residential area an approval must first be obtained from the Engineering Department, so as to avoid any possible damage to electrical cables or pipelines.
 - x) When it is necessary to block off any road in any area including the residential area, only official road barriers should be used. These are obtainable from the Fire Station on request. The supervisor in charge of the excavation work is responsible for carrying out this regulation.
 - xi) The excavation or ditch more than 1.5 meter deep must be properly shored up, before any employee is permitted to work in it.
 - xii) Should your clothes become saturated with oil, change your clothes immediately and wash the body parts affected, with water.
 - xiii) Coupling or connections on steam, air or water lines for hose connections should point downwards, so that if the hose blows off there will be less danger of personal injury.
 - xiv) No clothing or any inflammable material is allowed to be dried out on steam lines or any other hot equipment.

- xv) As gas or liquids have natural freezing qualities when the pressure is suddenly released, care must be exercised not to expose any part of the body to serious leaks or when taking samples. Frost-bite is often the effect of such exposure.
- xvi) When a person is working in any vessel in the immediate vicinity of operating units one person must be stationed at the opening of the vessel as a watchman.
- xvii) Sample bottles must not be used for any purpose other than samples.
- xviii) All belts and couplings must be properly guarded.
- xix) A guard may not be removed or adjusted while machinery is in operation. The machine must be rendered inoperative by the removal of fuses or locking of moving parts before a guard is removed or repairs commenced. Guards must be replaced before machinery is put back into operation.
- xx) All guards on pumps, motors, gears, machinery etc. etc. must be fitted after any maintenance work. These must be in place before handing over the equipment for operation.
- xxi) When work is completed all guards, and rails etc. must be replaced.
- xxii) All moving parts of machinery such as couplings, pulleys, wheels, belts, chains, fly wheels etc. must be equipped with proper guards.
- xxiii) It is strictly prohibited to use any grade of petrol or any other inflammable liquid or corrosive chemical such as caustic soda or acid for cleaning purposes. Approved paint removers may however be used.
- xxiv) Transporting or storing of petrol/Diesel or light products or corrosive chemicals etc. in any open container is strictly prohibited.
- xxv) Every precaution must be taken to avoid oil splashes when opening lines or other equipments. Oil must be drained into suitable containers wherever possible. In the event of an oil spill the Fire Section should be advised with a minimum of delay. Spills which involve light products must receive immediate attention.
- xxvi) Protective clothing and equipment must be worn by personnel handling corrosive chemicals, such acid, caustic soda etc. When required gas masks can be obtained from the Fire Station.
- xxvii) All storage containers such as tanks, drums etc. containing corrosive chemicals must be clearly marked indicating the nature of the contents.
- xxviii) All pumps in service on corrosive or dangerous chemicals must have gland guards to prevent spraying. All equipment which comes in contact with corrosive chemicals must be washed with water immediately after finishing the job.
- xxix) Before using any types of swinging scaffold, stages of boatswains chairs, it should be tested while close to the ground.
- xxx) Do not insert a bolt or nail in a chain to shorten it. The bolt or nail may slip or break and an accident results.
- xxxi) Only members of the operating personnel are allowed to change over pumps, open or close valves on operating lines and vessels etc. or in an emergency at least a member of the plant operating personnel must be in attendance when this is carried out.
- xxxii) When loading, unloading or handling pipe joints, a piece of wood or smaller short pipe should be inserted into the ends of the pipe. This will keep the hands free and prevent crushed fingers.
- xxxiii) Hand towing of Lister trailers is only allowed in plant areas.
- xxxiv) Do not transport any material including in process or final products samples by bicycles which are not equipped with special carriers.
- xxxv) If glass panes or windows, ventilators or shutters etc. are broken or cracked, the entire pane must be renewed immediately.

- 8.4 i) Vehicles of all description must be equipped with good exhaust and muffler system to enter the Refinery area. Any unit with a defective exhaust system will be prohibited from entering the Refinery area. All traffic signs and regulations must be complied within the Refinery area.

- ii) Vehicles must not be driven off roads on to operating plant area without a Fire/Hot work permit and cold work permit.
- iii) Diesel must not be siphoned out of tanks of vehicles.

8.5 Action by person noticing Fire:

- a) Attempt to extinguish fire with equipment available.
- b) Inform shift foreman or chargehand.
- c) Operate fire alarm and / inform Fire Station on telephone No. 101 / 3333 (in case of Mumbai Refinery),

9. EFFECTIVENESS OF RULES

- 9.1 Should any discrepancy occur between the various oral or written instructions furnished to contractor, the contractor shall refer the same to the Head of Security/Fire & Safety dept. whose decision will be final and conclusive and no claim for losses alleged to have been caused by such discrepancy between instructions / doubts / misunderstanding shall in any event be admissible.
- 9.2 These safety provisions should be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work spot. The person responsible for compliance of the safety regulations shall be named therein by the contractor.
- 9.3
 - (a) To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the contractor shall be open to inspection by the Engineer-in-Charge or Officer-in-charge of Safety or their representatives.
 - (b) Notwithstanding the above clauses there is nothing in these to exempt the contractor from the operations of any other act of rules in force in the Republic of India.
 - (c) The works throughout including any temporary works shall be carried out in such a manner as not to interfere in any way whatsoever with the traffic on any roads or footpaths at the site or in the vicinity thereto or any existing works whether the property of the Administration or of a third party.
 - (d) In addition to the above the contractor shall abide by the safety code provision as per C.P.W.D. Safety Code and Indian Safety Code framed from time to time.
 - (e) Violations of Safety Regulations may lead to disciplinary action, even though the particular violation does not result in an accident.
- 9.4 The violation of following General Rules and Regulations shall be viewed seriously and disciplinary action shall be taken against employee found responsible for the same.
 - 1. Willful or negligent violation of any Safety Rule which has been previously made known to him.
 - 2. Failure to report immediately accident or personnel injuries in which the owner may become involved.
 - 3. Violation of criminal law or committing of offence involving moral turpitude.
 - 4. Conduct which offends common decency and morality.
 - 5. Carrying weapons on site.
 - 6. Fighting or attempting to hurt another person on site.
 - 7. Drunkedness on site or while entering Refinery Premises.
 - 8. Malicious mischief resulting in injury to Owner's employees or property.
 - 9. Use of profane language with intent to insult or other abusive language to an employee.
 - 10. Introduction, possession or use of intoxicating liquor or habit forming drugs on site.
 - 11. Stealing, making fraudulent records or knowingly obtain material on fraudulent orders.

12. Insubordination, including refusal to perform assigned work and intentional disregard or disobedience to instructors.
13. Demonstrated incompetent and inability to do the work.
14. Sleeping on premises.
15. Negligence or carelessness resulting in damage to owner.

10. HEALTH, SAFETY AND ENVIRONMENT TRAINING:

10.1 GENERAL

The contract safety management system in refinery calls for Health, Safety and Environment (HSE) training to all connected with contract works viz.; Contractors, Contract Supervisors, Contract workers etc., who have to work inside the refinery. The contract safety management envisages HSE training as below:

- A. Contractors / Consultants
The Contractor or in the case of companies, the designated overall Manager In Charge of the job shall attend one day HSE training conducted by the Fire & Safety department/Learning Centre. A Safety ID card/ Record of safety training will be issued on completion of the training programme.
- B. Contract Supervisors / Engineers
 - i) One day HSE training is compulsory for all contract supervisors / engineers.
 - ii) Two days additional safety training on work permit and safe work practices is compulsory for all contract supervisors / engineers for getting an authorization to sign hot work permits. These personnel only can supervise the jobs covered under work permit at site .

At the end of each of the above two trainings, an examination is conducted and only those qualified will be issued a safety ID card/ Record of safety training
- C. Contract Workers
All contract workers shall attend one day HSE training. A Safety ID card/ Record of safety training will be issued on completion of the training programme.

- 10.2 The Safety ID cards/ Record of safety training issued will have a validity of three years in case of Mumbai Refinery and two years in case of Kochi Refinery from the date of qualifying. The safety ID cards/ Record of safety training will be different for each category viz., Contractor/ Consultant, Contract supervisor, Contractor supervisor authorized to sign hot work permit and Contract worker. For renewal of the ID cards, the contract personnel will have to go through the same process of training, as described above, once again.

Safety ID cards/ Record of safety training will be compulsory for applying for security entry pass for all contract personnel working inside the Refinery.

- 10.3 All contract supervisors/ engineers and workers who will have to attend the HSE training programme have to be sponsored by the BPCL registered /approved contractor.
- 10.4 The contractor shall prepare a consolidated list of those required to be trained and given entry passes for working within the Refinery in connection with the job awarded to him/ them. The list shall be submitted to the Engineer-In-Charge for necessary recommendation for HSE training as above.

11. COMPLIANCE OF BPCL HEALTH, SAFETY AND ENVIRONMENT PLANS:

The CONTRACTOR shall comply with the following Health, Safety and Environment Plans and also confirm his/its commitment to the same in the prescribed formats.

- (i) Safety Action Plan
- (ii) Housekeeping Plan
- (iii) Environment Control Plan
- (iv) Dust Control Plan and
- (v) Quality Assurance Plan

The details of the above are available in APPENDIX - A of the document

12. FINANCIAL DETERRENT FOR VIOLATION OF HSE NORMS BY CONTRACTORS:

All contractors working for BPCL have to strictly follow HSE norms as per BPCL rules and regulations. Contractors who violate HSE norms while executing the job will be penalized financially. Penalty amount and Reporting Authority for violation / non-adherence of various HSE norms are given in APPENDIX - B of the document.

APPENDIX - A

SAFETY ACTION PLAN

All supervisors and contract workers shall attend safety training. Only safety trained workers will be deployed by me.
All Personal Protective Equipment will be provided by me.
We will strictly adhere to BPCL safety rules and regulations.
We will follow the work permit system of BPCL.
While working at height, safety harness will be used.
While handling with chemicals proper precaution shall be taken to avoid spillage or splash on body.
Any incident/accident shall be reported to BPCL authorities and documented properly.
Any injury to the personnel employed by me for the job will be promptly reported to BPCL Medical Center/Occupational Health Center.
Proper enclosures will be prepared for welding.
While entering column/vessel proper care will be taken by providing standby personnel outside.
Only safe to use scaffolding will be used.
Daily safety briefing will be given to the personnel employed by me. Safety supervisor shall be designated who will monitor safe working.
I/We will employ only medically fit employees for the execution of the job.

HOUSEKEEPING PLAN

All equipment will be properly arranged and placed before start of work.
A separate bin shall be provided for collecting waste generated by the personnel employed by me. i.e., canteen waste/gloves/cotton waste.
All debris generated from plant will be collected and stored in BPCL allocated space.
Metallic debris will be carted away to warehouse and accounted for.
Unused material will be deposited back to warehouse.
Waste insulation material will be taken out of the site immediately.
Spillage of oil, if any, will be cleaned immediately.
Work area will be kept clean at all times.
Contractor shed and surroundings, if allocated any, will be kept clean and no debris will be deposited on road.
We will maintain approach way for movement of cranes etc.

ENVIRONMENT CONTROL PLAN

Proper care will be taken at site to avoid any oil leakage/seepage into the ground.
In case of leakage while opening flange, the matter will be reported to BPCL authorities.
Debris generated like insulation, refractory, concrete etc. will be collected and stored in designated places as directed by BPCL authorities.
Welding machines used shall not emit smoke beyond the permissible level.
Cleaning of work site will be carried out on a continuous basis.
Proper breathing apparatus will be used wherever required.

DUST CONTROL PLAN

Work shall be carried out in a manner where generation of dust is minimum.
Loose dust/dirt debris will be collected in bags and dumped in designated areas.
Work area will be barricaded, if required, to prevent dust inhalation.
Dust mask will be used in dust prone areas.

QUALITY ASSURANCE PLAN

Welders will be qualified as per BPCL inspection procedure. Only BPCL qualified welders will be engaged for job. Proper electrodes as specified in action report/scope of work by BPCL will only be used.
Proper oven arrangement will be made for use of electrodes.
All weld fitments will be offered to BPCL.
Weld joints, wherever required will be offered to radiography.
Minimum rejections/rework will be ensured.
Condition of welding machine/generator will be excellent.
Proper job sequence will be planned and followed.
Experienced riggers will be deployed for all rigging jobs. Rigging will be aware of sign codes/ slings, chain blocks to be used.
Fitters/fabricators will have relevant experience and able to understand drawings.
All activities will be recorded and documented date wise.
Grinders will use proper wheels and depending upon the surface conditions.
All tools and tackles used will be of reputed make only.
Modern and mechanized tools will be used wherever possible.

I/We are committed to all the above plans.

Job No.: _____

Job Name: _____