

Annexure A
SAFETY CODES

1. GENERAL

SUPPLIER /SELLER understands that PURCHASER places importance to Health safety and environment System and accordingly it undertakes to ensure that its employee's/personnel's /representative's deployed/deputed at Plant will comply with PURCHASER's standards rules, regulations, practice and Procedures, in general and security procedures, in particular, which have the desired objective of ensuring Security, Safety and Healthy Environment system. Accordingly, SUPPLIER /SELLER undertakes to adhere to safe construction practice and guard against hazardous, and unsafe working conditions and shall comply with **PURCHASER's** standards rules, regulations, practice and security procedures as set forth herein as annexure.

2. FIRST AID AND INDUSTRIAL INJURIES

- (i) SUPPLIER /SELLER shall maintain first aid facilities for its employees and those of its SUB-SUPPLIER /SELLER.
- (ii) SUPPLIER /SELLER shall make outside arrangement for ambulance service and for the treatment of industrial injuries. Names of those providing these services shall be furnished to **PURCHASER** prior to start of construction and their telephone numbers shall be prominently posted in SUPPLIER /SELLER's field office.
- (iii) All critical industrial injuries shall be reported promptly to **PURCHASER**, and a copy of SUPPLIER /SELLER's report covering each personal injury requiring the attention of a physician shall be furnished to **PURCHASER**.

3. SAFETY REGULATIONS

- (i) In respect of all labour, directly or indirectly employed in the work for the performance of SUPPLIER /SELLER's part of this agreement, the SUPPLIER /SELLER shall at his own expenses arrange all the safety provisions as per safety codes of C.P.W.D Indian Standards Institution, The Electricity Act, Factory Acts & West Bengal Factory Rules, Petroleum Rules, SMPV Rules , Gas cylinder Rules , BOCW Acts and such other acts as applicable.
- (ii) The SUPPLIER /SELLER shall observe and abide by all fire and safety regulations of **PURCHASER**. Before starting construction work SUPPLIER /SELLER shall consult with **PURCHASER** safety Engineers or RESIDENT CONSTRUCTION MANAGER and must make good to the satisfaction of **PURCHASER** any loss or damage due to fire to any portion of the work done or to be done under this agreement or to any of **PURCHASER** existing property.

4. GENERAL RULES

Smoking within the SITE, tank farm or dock limits is strictly prohibited, Violators of the NO SMOKING rules shall be discharged immediately.

5. SUPPLIER'S BARRICADES

- (i) SUPPLIER /SELLER shall erect and maintain barricades required in connection with his operation to guard or protect.
 - (a) Excavations.
 - (b) Hoisting Areas.

- (c) Areas adjudged hazardous by SUPPLIER /SELLER's or by **PURCHASER's** inspectors,
- (d) **PURCHASER's** existing property subject to damage by, SUPPLIER /SELLER's Operations.
- (e) Rail/road unloading spots.
- (f) Radiography Job area.

- (ii) SUPPLIER /SELLER's employees and those of his SUB-SUPPLIER /SELLER's shall become acquainted with **PURCHASER's** barricading practice and shall respect the provisions thereof.
- (iii) Barricades and hazardous areas adjacent to but not located in normal routes of travel shall be marked by red flasher at nights.

6. SCAFFOLDING

- (i) Suitable scaffoldings should be provided for workmen for all works that cannot safely be done from the ground or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra Helper shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand tools shall be provided on the ladder and the ladder shall be given in inclination not steeper than 1 in 4 (1 horizontal and 4 vertical)
- (ii) Scaffolding or staging more than 4 metres 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 retarded at least one metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure. Base plate, Hand rail , Mid rail, Toe Guard, Cross bracing is to be provided.
- (iii) 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 (ii) above. Suitable tags with signatures (Red, green), warning sign are to be installed by competent persons to scaffold to indicate status during erection & use.
- (iv) Every opening in the floor of a 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 metre.
- (v) 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 metres in length while the width between side rails in rung ladder shall 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 atleast 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 or public. The SUPPLIER /SELLER shall also provide all necessary fencing and lights to protect the workers and staff from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceeding of law that may be brought by any person for injury sustained owing to neglect of the above precautions and pay any damages and costs

which may be awarded in any such suit or action or proceedings to any such person or which may with the consent of the SUPPLIER /SELLER be paid to compromise any claim by any such person.

7. EXCAVATION AND TRENCHING

All trenches 1.2 metres or more in depth, shall at all times be supplied with at least one ladder for each 50 meters or fraction thereof.

Ladder shall be extended from bottom of the trench to at least 1 metre above the surface of the ground. The sides of the trenches that are 1.5 metres in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides to collapse. The excavated materials shall not be placed within 1.5 meters of the edge of the trench or half of the trench width whichever is more. **Excavated area more than 1.5 meter depth is to be considered as a confined space.** Cutting shall be done from top to bottom. Under no circumstance undermining or under-cutting shall be done.

8. DEMOLITION/GENERAL SAFETY

- (i) Before any demolition work is commenced and also during the progress of the demolishing work.
 - (a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - (b) No electric cable or apparatus which is liable to be a source of danger shall remain electrically charged.
 - (c) All practical steps shall be taken to prevent danger to persons employed from risk or 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.
- (ii) All necessary personal safety equipment as considered adequate by the RESIDENT CONSTRUCTION MANAGER, should be kept available for the use of the persons employed on the SITE and maintained in condition suitable for immediate use, and the SUPPLIER /SELLER 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 eye-shields, handgloves etc.
 - (d) 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 SUPPLIER /SELLER shall ensure that the manhole covers are opened 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 SUPPLIER /SELLER shall not employ persons below the age of 18 years and women on the works of painting with products containing lead in any form, wherever men above the age of 18 year are employed on the work of lead painting, the following precautions should be taken.
- (1) No paint containing lead or lead product shall be used except in the form of paste of readymade paint.
 - (2) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped.
 - (3) Overalls shall be supplied by the SUPPLIER /SELLER to the workmen and adequate facilities shall be provided to enable the working painters to wash them during and on cessation of WORK.
- (iii) 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 all injuries likely to be sustained during the course of the WORK.
- (iv) 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 as means of suspension shall be of durable quality and adequate strength and free from patent defects.
 - (c) Every crane driver or hoisting appliance 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.
 - (d) In case of every hoisting machine and of every chain ring hook, shackle, 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 which shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond safe working load except for the purpose of testing.
 - (e) In case departmental machine, the safe working load shall be notified by the RESIDENT CONSTRUCTION MANAGER. As regards SUPPLIER /SELLER's machines, the SUPPLIER /SELLER shall notify the safe working load of the machine to the RESIDENT CONSTRUCTION MANAGER whenever he brings any machinery to SITE of WORK and get it verified by the RESIDENT CONSTRUCTION MANAGER.
- (v) Motors, gears, transmission lines, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliance should be provided with such means as to reduce to minimum be accidental descent of the load, adequate precautions should be taken to reduce the minimum risk of any part or parts of suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energised, insulating mats, wearing apparel, such as gloves, sleeves, and boots as may be necessary should be provided. The

workers shall not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.

- (vi) All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffolds, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places or work.
- (vii) 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 code shall be named therein by the SUPPLIER /SELLER.
- (viii) To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the SUPPLIER /SELLER shall be open to inspection by the Welfare Officer, RESIDENT CONSTRUCTION MANAGER or safety engineer of the Administration or their representatives.
- (ix) Notwithstanding the above clauses there is nothing in these to exempt the SUPPLIER /SELLER for the operations of any other Act of rules in force in the Republic of India. The WORK 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.

In addition to the above, the SUPPLIER /SELLER shall abide by the safety code provision as per C.P.W.D. Safety code and Indian Standard Safety Code from time to time.

9. CARE IN HANDLING INFLAMMABLE GAS

The SUPPLIER /SELLER has to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinder/inflammable liquid/paints etc. as required under the law and or as advised by the fire Authorities of **PURCHASER**.

10. TEMPORARY COMBUSTIBLE STRUCTURES

Temporary combustible structures will not be built near or around work site.

11. PRECAUTIONS AGAINST FIRE

The SUPPLIER /SELLER will have to provide Fire Extinguishers/ Fire Buckets and drums at worksite as recommended by RESIDENT CONSTRUCTION MANAGER. They will have to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinders/inflammable liquid/paints etc. as advised by RESIDENT CONSTRUCTION MANAGER. Temporary combustible structures will not be built near or around the work-site.

12. EXPLOSIVES

Explosives shall not be stored or used on the works or on the site by the SUPPLIER /SELLER without the permission of the RESIDENT CONSTRUCTION MANAGER in writing and then only in the manner and to the extent to which such permission is given. When explosives are required for the works they will be stored in a special magazine to be provided at the cost of the SUPPLIER /SELLER in accordance with the EXPLOSIVE rules. The SUPPLIER /SELLER shall obtain the necessary licence for the storage and the use of explosives and all operations in which or for which explosives are employed shall be at sole risk and

responsibility of the SUPPLIER /SELLER and the SUPPLIER /SELLER shall indemnify PURCHASER against any loss or damage resulting directly or indirectly therefrom.

13. PRESERVATION OF PLACE

The SUPPLIER /SELLER shall take requisite precautions and use his best endeavours to prevent any riotous or unlawful behaviour by or amongst his workmen and others employed on the works and for the preservation of peace and protection of the inhabitants and security of property in the neighbourhood of the work. In the event of PURCHASER requiring the maintenance of a special Police Force at or in the vicinity of the site during the tenure of works, the expenses thereof shall be borne by the SUPPLIER /SELLER and if paid by PURCHASER shall be recoverable from the SUPPLIER /SELLER.

14. OUTBREAK OF INFECTIOUS DISEASES

The SUPPLIER /SELLER shall remove from his camp such labour and their families who refuse protective inoculation and vaccination when called upon to do so by the RESIDENT CONSTRUCTION MANAGER's Representative. Should Cholera, Plague other infectious disease break out the SUPPLIER /SELLER shall burn the huts, beddings, clothes and other belongings used by the infected parties and promptly erect new huts on healthy sites as required by the RESIDENT CONSTRUCTION MANAGER failing which within the time specified in the Engineer's requisition, the work may be done by PURCHASER and the cost thereof shall be recovered from the SUPPLIER /SELLER.

15. USE OF INTOXICANTS

The unauthorised sale of spirits or other intoxicating beverages upon the work in any of the buildings, encampments or tenements owned, occupied by or within the control of the SUPPLIER /SELLER or any of his employee is forbidden and the SUPPLIER /SELLER shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

16. PENALTY

In case of accident:

a) In case of physical injury, a penalty of 0.5% of the contract value or Rs.1,00,000.00 per injury, whichever is more.

b) In case of fatal accident, a penalty of 1% of the contract value or Rs.5,00,000.00 per fatality, whichever is more.

Incase of violation of Safety Rules/Procedures:

For violation in PPEs norm as laid down in respective area & not complying the general Safety rules/procedures of the Company the penalty will be Rs.1,000.00 per occasion per man. For any subsequent recurring issues the penalty will be double i.e. Rs.2,000.00 per next occasion. These penalties (if any) will be deducted from SUPPLIER /SELLER's respective monthly bills.

In case of different types of injuries:

a) First Aid Case (FAC) – Rs. 2000 per incident per person

b) Medical Treatment case (MTC) - Rs. 4000 per incident per person

c) Restricted Work Case (RWC) - Rs. 8000 per incident per person

For any subsequent recurring issues, the penalty will be doubled for each case.

The above penalties will be independent of any statutory penalties and/or other action against the service SUPPLIER /SELLERS.

Annexure B

SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM

Safety, Fire & security Regulations:

1. No Smoking

- 1.1 The SUPPLIER /SELLER shall instruct his workmen NOT TO SMOKE except at the prescribed smoking booths as provided by PURCHASER. The SUPPLIER /SELLER shall be responsible for all the faults of his workers in this regard and PURCHASER authority reserves the right to TERMINATE the work of the SUPPLIER /SELLER and forfeit any or all the amounts, which may be due to him.
- 1.2 Carrying of matchboxes, lighters or any other means of ignition inside PURCHASER complex is strictly prohibited.
- 1.3 Any SUPPLIER /SELLER's employee who is found smoking or in the possession of match box or any other means of ignition in a prohibited area will be turned out from the premises of the PURCHASER plant. Suitable action as decided by the management will also be taken.

2. Operational Area:

- 2.1 PURCHASER complex is an operational area. Therefore, SUPPLIER /SELLER and his employees shall observe all fire & safety regulations of the PURCHASER and shall so organize this work as not to interfere with the running of the Plant in any manner whatsoever. The SUPPLIER /SELLER shall ensure that their staff / workmen carry with them valid passes / work permits etc for proper identification inside the battery area.
- 2.2 The SUPPLIER /SELLER shall not commence the job without the valid permit for the area and for the job. The following are the types of permits / clearances to be obtained by the SUPPLIER /SELLER as per the requirement of the job:
 - ❖ Cold Work Permit
 - ❖ Hot Work Permit
 - ❖ Work at Height Permit
 - ❖ Excavation Permit
 - ❖ Vehicle entry permit
 - ❖ Electrical work permit &
 - ❖ Isolation / Restoration procedure
- 2.3 The PURCHASER authority reserves the right to terminate the contract in case it is observed that the SUPPLIER /SELLER is not following the precaution mentioned on the permit.
- 2.4 The complete job is to be carried out within the PURCHASER complex. The SUPPLIER /SELLER shall take all necessary safety precautions and obtain required Work Permits etc from the competent authority before carrying out any job as covered by the Contract. Safety Barricade wherever necessary are to be put up at his own cost.
- 2.5 SUPPLIER /SELLER's employees shall abide by the Fire & Safety rules and regulations of the PURCHASER since the job is to be done in the operational area. Construction activities / Hot Works may be suspended temporarily as per the instruction of the Engineer-in-Charge. Any extra claim for whatsoever reasons for such suspension of the work will not be entertained.

- 2.6 The SUPPLIER /SELLER shall make the necessary arrangements of obtaining Gate Pass for his employees at his own cost. In case of termination of the service of any of his employee during the contractual period, the SUPPLIER /SELLER shall have to surrender the Gate Pass issued to the employees by the PURCHASER authority. At the end of the Contract all the Gate Passes shall have to be returned to PURCHASER.
- 2.7 For any damage done by the SUPPLIER /SELLER's employees to the existing facilities of the PURCHASER Plant, the SUPPLIER /SELLER shall be solely responsible to make good as per the instruction of the Engineer-in-Charge at his own cost.
- 2.8 For any overhead work SUPPLIER /SELLER has to arrange necessary safety belts for his workman at his own cost.

3. SPECIAL CONDITIONS OF CONTRACT ON SAFETY REGULATIONS

The following is a list of Rules and Regulations which must be observed by the SUPPLIER /SELLER working in the PURCHASER Plant:

3.1 Safety:

- 3.1.1 The SUPPLIER /SELLER shall ensure that all workmen engaged by him will carry Identity card. On demand SUPPLIER /SELLER's employee has to show the Identity card to PURCHASER personnel.
- 3.1.2 The SUPPLIER /SELLER shall ensure that their workmen / supervisors should not loiter in places other than their work premises without a valid authorization from PURCHASER authority.
- 3.1.3 The SUPPLIER /SELLER has to ensure that the workmen employed by him is not having any adverse report with Police / Local Sarpanch.
- 3.1.4 The SUPPLIER /SELLER shall ensure that the workmen working with him are aware of the Do's and Don'ts and they strictly adhere to that.
- 3.1.5 The SUPPLIER /SELLER / his workmen / supervisor shall fully adhere to the security instructions issued by Management from time to time.
- 3.1.6 SUPPLIER /SELLER has to ensure that the persons engaged by him should not be below 18 years of age.

3.2 Work Permit:

- 3.2.1 Any work carried out within the PURCHASER Plant must be covered by a Work Permit issued by the concerned department or Area-in-Charge. In addition, a clearance must be obtained from the concerned department's officer or supervisor prior to commencement of any job. A Hot permit is required for all of following hot jobs
- 3.2.2 Any work involving open flames and spark such as welding, gas cutting, soldering, grinding, concrete breaking, use of hurricane lamps and internal combustion driven vehicles / equipment.
- 3.2.3 Sand Blasting, Trucks, Jeeps, Cranes, Lifts, Cars or any kind of vehicle / equipment driven by an internal combustion engine or by batteries.
- 3.2.4 Use of Gasoline, Diesel or Electrical Power Engines or Tools.

- 3.2.5 Entry of vehicles inside Battery Limits of Process area, within tank dykes and adjacent to pump houses / API separator and loading gantries.
- 3.2.6 Open fire such as burning of wood, coal etc is strictly prohibited inside the Battery area.
- 3.2.7 While carrying out the hot job, the SUPPLIER /SELLER and his workmen must ensure the following safety measures and job should not be carried out without these:
- ❖ Valid hot job permit
 - ❖ Availability of Tested and proper Fire Extinguisher at the work places
 - ❖ Provision of Running Fire Water Hose at the work place
- 3.2.8 All Flammable / Combustible materials should either be removed from the work place or should be properly protected.

3.3 Working at Heights:

- 3.3.1 While working at height, at more than 1.5 mtrs from floor level, following safety precautions have to be followed:
- ❖ SUPPLIER /SELLER has to obtain the permit for working at height duly approved by competent authority
 - ❖ Proper type of Scaffolding / Platform / Ladder should be made to facilitate the job at height. Minimum 2 nos. of ladders should be provided at opposite sides.
 - ❖ Use of bamboo scaffolding is strictly prohibited inside the Plant area. Only Steel Scaffolding shall be used for work inside the Plant. The Steel Scaffolding material and it's erection shall be done as per relevant IS Specification
 - ❖ The SUPPLIER /SELLER shall ensure the use of safety belts by his workmen working at heights. Safety belt to be used should be of good quality (IS Marked) and shall be hooked up with firm support.
 - ❖ Before starting the job, competent person shall inspect scaffolding and a record of the same shall be kept at site.

3.4 Working with Electrical System:

- 3.4.1 SUPPLIER /SELLER or his nominated subSUPPLIER /SELLER should have valid electrical SUPPLIER /SELLER's license for working in the State of West Bengal. SUPPLIER /SELLER shall furnish a copy of the same to Engineer-in-Charge before commencement of any work pertaining to Electrical System. In any case, no work shall be permitted to be executed at site without a valid Electrical SUPPLIER /SELLER's License, and the decision of the Engineer-in-Charge in this regard shall be final and binding and no claim / compensation whatsoever shall be entertained on this account.
- 3.4.2 While working on Electrical System, the SUPPLIER /SELLER and his workmen shall ensure that the following safety measures are in place:
- ❖ Proper & valid Electrical Line clearance is obtained for the equipment.
 - ❖ The cables are properly insulated and are without any temporary joint.
 - ❖ All Flammable / Combustible materials should either be removed from the work place or should be properly protected.
 - ❖ Suitable Earth Leakage Circuit Breaker (ELCB) is provided for incoming and all outgoing feeders.
 - ❖ Proper Earthing is provided to Distribution Board and other Electrical Equipments like Welding Machines & Grinding Machines etc.
 - ❖ Pipe sleeves are provided for road crossings of temporary cables laid by the SUPPLIER /SELLER for his work.

- ❖ The power connection should not be overloaded and suitable overload protection should be provided.
- ❖ The tools used by the SUPPLIER /SELLER personnel should be properly insulated and in good condition
- ❖ The Grinding Machine & other Power Tools should have proper guard.

3.5 Electrical Apparatus:

- 3.5.1 The SUPPLIER /SELLER should ensure that the portable electrical equipment like grinding machine, drilling machine etc is in healthy condition. The SUPPLIER /SELLER should take all precautionary safety action, as providing of Earth Leakage Circuit Breakers for their portable electric machines. In lieu of the above, double insulated portable equipment may be used.
- 3.5.2 All portable electrical apparatus shall be regularly examined, tested and maintained to ensure the apparatus and leads are in good order.
- 3.5.3 Ensure that all portable appliances are provided with 3 pin plug and socket connections and that all the metallic parts or the apparatus are effectively earthen. All loose wiring such as flexible cables for portable lamps, tools and trailing cables and other portable and transportable apparatus, shall be tested regularly at frequent intervals to ensure safety.
- 3.5.4 No dry battery or accumulator, type of electric hand lamp or torch, which is not of flameproof safety type shall be taken inside the Plant.

3.6 Use of Company Facilities:

Under no condition shall any SUPPLIER /SELLER personnel temper with or use any property belonging to the PURCHASER without obtaining prior sanction from the supervisor or area concerned.

3.7 Radiography:

- 3.7.1 The radiography agency employed by the SUPPLIER /SELLER shall be duly approved by BARC
- 3.7.2 The SUPPLIER /SELLER prior to any radiography work shall obtain specific approval from the Engineer-in-Charge for the radiography agency.
- 3.7.3 The SUPPLIER /SELLER shall ensure the following safety precautions for the work to be done by the radiography agency.
 - ❖ The radiography work shall be carried out under the supervision & guidelines of their Site-in-Charge duly approved by BARC.
 - ❖ As far as possible, field radiography should be done only during night time when there is little or no occupancy around.
 - ❖ Field radiography during daytime may be permitted with due permission of EIC when the occupancy around is minimum i.e. during lunch interval or on holidays.
 - ❖ A suitable area around the radiography job should necessarily be cordoned off, so that the radiation level outside the area does not exceed the permissible radiation level. The radiation level along the cordon should be monitored by suitable & calibrated survey meter.
 - ❖ Radiation warning symbol during day time & red warning light during the night to be prominently displayed while carrying the radiography work.
 - ❖ The concerned radiographer shall remain physically present outside the cordoned area during exposure.
 - ❖ Provide lead screen which will absorb all radiation around the objects

3.8 Temporary Structure / Fixtures:

- 3.8.1 Before erecting temporary shelters like sheds or tents anywhere within the Plant Premises, written permission of the concerned authorities must be obtained.
- 3.8.2 Temporary fixtures like; sheds, tents etc shall be erected in conformity with normal safety standards. Thatched roof to such fixtures will not be permitted.
- 3.8.3 Temporary piping, hose connections and electrical wiring must be laid in such manner that they do not cause tripping or hitting hazard.
- 3.8.4 Temporary sheds can be constructed only for the storing of the material / Site Office. It should not be used for any other purpose.
- 3.8.5 The shed shall be made of safe construction material and good aesthetic view. The shed shall be made strictly at the authorised location and size
- 3.8.6 All windows shall be either of wire mesh or glass
- 3.8.7 PURCHASER Has the right to open or break the door at any time to inspect the shed
- 3.8.8 After completion of the job, shed must be demolished within 10 days and area must be cleaned
- 3.8.9 All precautions should be taken to ensure that any temporary electrical wiring used within the Plant will not cause spark or shock.

3.9 Compressed Gas Cylinders:

- 3.9.1 Compressed gas cylinders should be used in upright position. They must be firmly located on the ground or to a sturdy stand and the cylinder should be chained to prevent accidental fall.
- 3.9.2 Rolling or throwing of cylinders is strictly prohibited. Cylinders shall be handled carefully and transported through hand trolleys.
- 3.9.3 Cylinders shall be stacked properly. Empty cylinders shall be stacked separately and filled cylinders separately. After completion of job, all cylinders must be removed.

3.9.4 Defective cylinders are not allowed inside the factory boundary. Gas cylinders are to be checked thoroughly and defective cylinders are to be discarded.

3.9.5 Color coding of the cylinders, regulators and connecting hose must be as per gas cylinders & other relevant rules.

3.10 Housekeeping:

- 3.10.1 Good House Keeping must be practiced by the SUPPLIER /SELLER personnel at all time while within the plant. During and after completion of the work, they are to ensure that their work area is kept clean and tidy. Materials and equipment should be stored in a safe and orderly manner so that they will not block exits to roads, buildings, aisles, passage and approach to fire fighting equipment such as fire hydrants, fire hose and fire extinguishers or area where emergency safety showers, electrical switch panels and switch rooms are located.

- 3.10.2 The work / construction sites are to be cleaned daily and all debris / scrap generated is to be kept at the designated place only every day by the SUPPLIER /SELLER as directed by the Engineer-in-Charge. The scrap / debris so generated shall be disposed off to the designated places once a week as per the direction of Engineer-in-Charge.
- 3.10.3 A job will not be considered completed until all surplus material, scrap and debris / rubbish are removed from the job site.
- 3.10.4 In case the SUPPLIER /SELLER does not clear the area within 7 days of completion of work, the same shall be done by PURCHASER and recoveries shall be made from the bills of the SUPPLIER /SELLER at double the rate at which the particular job was awarded in the contract.
- 3.10.5 Any failure by the SUPPLIER /SELLER in maintaining good house keeping / clearing the site as above shall be recorded in the performance report of the SUPPLIER /SELLER.
- 3.10.6 The SUPPLIER /SELLER has to maintain the following at job site:
- ❖ First Aid Box with required medicines
 - ❖ Safety Register
 - ❖ Injury Record
 - ❖ Safety training records
 - ❖ HIRA register
 - ❖ First Aid fire fighting equipment & Fire hose

3.11 Personal Protective Equipment:

For the safe conduct of any job, SUPPLIER /SELLER has to arrange Personal Protective Equipments for his personnel as per requirement. The equipments shall be standard quality and adequate numbers. Use of PPE such as helmets, safety shoes, safety belt, air plug, hand gloves, aprons, safety goggles etc is a must in PURCHASER. PURCHASER shall not provide any PPE. However, in some specific cases, PURCHASER shall issue Personal Protective Equipments to SUPPLIER /SELLER employee. In such event special PPE shall have to be returned to PURCHASER in good condition after use.

General standards of PPEs :

1. Helmet IS:2925 with chin strap, 2. Safety Shoe IS-15298, Part,2, Industrial safety shoe having Steel/PU toe Moulded one with Chemical resistant, Antistatic, oil resistant sole, 3. Safety Spectacles Polycarbonate with Anti scratch, IS:5983 or ANSI Z87.1 or EN166, 4. Ear plug IS: 9167 or EN352-2 or ANSI S3,19- 1974, 5. Rubber gloves (PVC) Yellow color with CE marked, 6. Leather gloves Chrome soft leather, 7. Disposable Dust Mask IS:9473 or EN149FFPIS, 8. Disposable Acid mask EN149FFPIS, 9. Full body harness (safety belt) IS:3521/CE0299 & EN361 with Double lanyard (lanyard length < 2mt), 10. Boiler suit/cover all 100% Cotton, one piece. 11. Electrical hand gloves as per IS standard for different voltages.

3.12 Clothing & Personal Protection:

- ❖ SUPPLIER /SELLER Workmen should not be in loose outfit while working around moving or rotating machinery and equipment.

3.13 Unsafe Practices:

- ❖ Any unsafe practice noticed by PURCHASER employee has to be rectified by the SUPPLIER /SELLER immediately.

3.14 Personal Conduct:

The SUPPLIER /SELLER should ensure that his workmen engaged inside PURCHASER premises are not under influence of alcohol / narcotics.

- ❖ Gambling within the Plant premises is strictly forbidden
- ❖ Entering the Plant while possession of weapons such as knives etc is prohibited
- ❖ SUPPLIER /SELLER personnel shall not pick up quarrel or get into arguments with Plant personnel or among themselves in any manner, which is violation of plant discipline. In case any workmen are having genuine problems he should refer that problem to his supervisor.

3.15 Driving of Motor Vehicles:

3.15.1 SUPPLIER /SELLER shall ensure that all State Traffic Rules and Regulations are complied with while motor vehicles are driven inside the Plant premises. In addition, the following points are also outlined for compliance:

- ❖ Speed Limit: Speed Limit is 30 KMPH within the Plant area. All vehicles must be mechanically sound and have an efficient exhaust with approved spark / flame arrestor, silencer, horn, and fuel cap.
- ❖ Parking: Park vehicles only in approved area. Vehicles must be parked in such a manner that they will not move while unattended. As a general rule, vehicles should not be parked at road bends; in front of fire equipments thereby blocking access to them.
- ❖ No vehicles should enter into any operating area without valid **Vehicle entry permit** /fire permit followed by a safety clearance from the Area-in-Charge (this includes process areas, tank farms and loading racks).
- ❖ Vehicles driven inside the Plant premises should have effective brakes, horns, lights, mufflers and flame arrestor etc.
- ❖ Any kind of repair work on SUPPLIER /SELLER's vehicle is not allowed inside the Battery area.

3.16 Fire Protection Equipment:

3.16.1 **SUPPLIER/SELLER should bring first aid firefighting equipment & fire hose for hot work construction jobs.** SUPPLIER /SELLER personnel who are working such jobs will be instructed by the concerned department about the operation of such standby fire protection equipment. In the event of an accidental fire, it is expected of such personnel to make efforts to extinguish the fire with the standby equipment made available and the SUPPLIER /SELLER personnel should immediately get in touch with any of the Plant personnel available or break the nearest fire alarm point glass. In all cases, accidental fires shall be reported to the supervisor of the area concerned.

3.16.2 All efforts should be made by the SUPPLIER /SELLER personnel to prevent occurrence of any unwanted fire..

3.17 Report to Accident/Incident Investigation & reporting:****

3.17.1 All accidents such as personal injuries sustained by SUPPLIER /SELLER personnel and damages to vehicle and property, no matter how slight they are, shall be immediately reported to the Engineer-in-Charge / Fire & Safety dept in writing. It is the responsibility of the SUPPLIER /SELLER to fulfill all legal formalities.

- 3.17.2 Medical treatment for injured SUPPLIER /SELLER personnel will be entirely the responsibility of SUPPLIER /SELLERS. However, if required, emergency first aid treatment may be given by the Plant Medical center.
- 3.17.3 Any questions or doubts on the safety regulations enumerated in this tender or the generally accepted safety working practices may be clarified with the concerned department of safety section.
- 3.17.4 The following actions shall be taken by the SUPPLIER /SELLER and his employees / workmen about bombs, unattended baggage / objects lying at secluded places in the Plant:
- 3.17.5 On noticing any bomb / unattended baggage or object lying in the plant area, they should immediately inform the Security dept
- 3.17.6 They should not touch the object or try to open the baggage or fiddle with the wires or battery if found attached to the object
- 3.17.7 They should move away to a safety distance of approximate of 100 mtrs without creating any panic.
- 3.17.8 In case of unattended baggage, they should help security personnel in identifying the claimant.
- 3.17.9 They should not move to the area unless clearance is given by security personnel

3.18 Do's and Don'ts – Safety:

Do's in case of Bomb / Unattended baggage lying at secluded places in the Plant :

- ❖ On noticing any bomb or unattended baggage, inform Security dept and PURCHASER Fire dept by quickest possible means
- ❖ Move away from the bomb / unattended baggage
- ❖ Help Security personnel in identifying unattended baggage
- ❖ Move back to your place of work after clearance has been given

Don'ts in case of Bomb / Unattended baggage lying secluded places in the Plant:

- ❖ Do not touch the bomb / unattended baggage
- ❖ Do not lift any unattended baggage
- ❖ Do not go very close to the object
- ❖ Do not create any panic
- ❖ Do not fiddle with wires or battery if found attached with any object
- ❖ Do not open any unattended baggage
- ❖ Do not try to defuse any bomb of explosive material

3.19 EMERGENCY RESPONSE PLAN

- 3.19.1 SUPPLIER /SELLER has to adhere and respond to the on-site emergency plan and co-ordinate with the site main controller of PURCHASER Plant
- 3.19.2 SUPPLIER /SELLER personnel shall stop their work and precede to a safe area in the event of an emergency arises in the area where they are working like in case of fire, oil spillage, power failure etc. Before re-commencement of the job they should obtain clearance of supervisor of area concerned.
- 3.19.3 In view of the hazards associated with Hydrocarbon processing, on site emergency plan has been prepared in the event of major accident occurring on site. The plan envisages handling emergency situation, which shall be communicated through siren, based on nature of emergency as mentioned below.
- 3.19.4 In case of major emergency, it is the responsibility of the SUPPLIER /SELLER to head count his personnel and take them out with the help of concerned PURCHASER co-coordinator. SUPPLIER /SELLER must confirm the safe evacuation of his personnel to PURCHASER Plant. In case of any missing person, it must be brought into the notice of PURCHASER authorities immediately.

4.0 Types of Communication in case of Emergency:

TYPE OF EMERGENCY		NATURE	SIREN
Fire Siren	::	Wailing type with more pause (up & down)	
Gas Leakage Siren	::	Wailing type with less pause	
Evacuation Siren	::	Wailing type with different frequency	
All Clear Siren	::	Continuous type	

5. Evacuations and Sheltering:

In case of emergency / major accident or disaster

6 Penalty for violating safety rules & procedures :

Incase of accident of a SUPPLIER /SELLER's employee:

- a) In case of physical injury (LTI) a penalty of 0.5% of the contract value or Rs.1,00,000.00 per injury, whichever is more.
- b) In case of fatal accident, a penalty of 1% of the contract value or Rs.5,00,000.00 per fatality, whichever is more.

Incase of violation of Safety Rules/Procedures:

For violation in PPEs norm as laid down in respective area & not complying the general Safety rules / procedures of the Company the penalty will be Rs.1,000.00 per occasion per man. For any subsequent recurring issues the penalty will be double i.e. Rs. 2,000.00 per next occasion. These penalties (if any) will be deducted from SUPPLIER /SELLER's respective monthly bills

7. Special Conditions of Contract on Environmental Management system

- 1) SUPPLIER /SELLER shall inculcate environmental awareness among their workmen / Strive for enhancement of systems and skills for minimizing the environmental impact out of their activities / services.
- 2) SUPPLIER /SELLER shall avoid wastage of water, Compressed Air and Steam supplied to them from PURCHASER's source of supply for execution of the job and close the supply valves properly while not in use.
- 3) Before attending any blinding / de-blinding jobs, all tools, tackles and spares shall be kept ready at site in order to minimise Hydrocarbon spillage.
- 4) SUPPLIER /SELLER shall clear and level the job site and remove all metallic and non-metallic surplus materials, scrap and other waste materials generated out of his job, from time to time as well as after completion of job to a specific location as per Engineer-in-Charge.
- 5) SUPPLIER /SELLER shall ensure to avoid idle running of Electrical Equipments eg. Welding machines etc. used for execution of the job.
- 6) SUPPLIER /SELLER's vehicles and other portable equipments eg. Air Compressor, DG Set, De-watering Pumps etc. used inside Plant premises for execution of the job must be mechanically sound and have an approved spark arrestor and have exhaust complying pollution norms. Idle running of those vehicles and equipments shall be avoided.

ANNEXURE – C
SUPPLIER/SELLER'S RESPONSIBILITIES W.R.T SATETY

1. SUPPLIER /SELLER's responsibilities

- The SUPPLIER /SELLER shall assure that each contract employee is trained in the work practices necessary to safely perform his/her job.
- The SUPPLIER /SELLER shall assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan.
- The SUPPLIER /SELLER shall document that each contract employee has received and understood the training required by this paragraph. The contract employer shall prepare a record which contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training.
- The SUPPLIER /SELLER shall ensure that each contract employee follows the safety Rules of the facility including the safe work practices.
- The SUPPLIER /SELLER shall advise the employer of any unique hazards presented by the contract employer's work, or of any hazards found by the contract employer's work.
- SUPPLIER /SELLER must ensure that a competent supervisor is deployed for the entire tenure of the work. He will be assessed by HPL prior to deployment. In case a new supervisor is deployed, he has to undergo the same assessment process prior to deployment.
- SUPPLIER /SELLER must ensure that adequate number of competent safety representative is deployed for the entire tenure of the work. He will be assessed by HPL prior to deployment. In case a new safety representative is deployed, he has to undergo the same assessment process prior to deployment.

2. HSE Management System

SUPPLIER /SELLER must have a defined Health, Safety & Environmental Management system in place aligned to HPL requirements and demonstrate that it is implemented effectively. It should typically cover the following elements

- ☐ Leadership & Commitment by higher management.
- ☐ HSE Policy
- ☐ Organization, Resources & Documentation related to HSE.
- ☐ Evaluation & Risk Management.
- ☐ Planning & Procedure.
- ☐ Implementation & Monitoring.
- ☐ Auditing & Review.
- ☐ Safety meeting,
- ☐ safety promotion program,
- ☐ safety enforcement and disciplinary action plan,

The SUPPLIER /SELLER should have an HSE policy backed by their management's commitment to create a safe work environment. The policy should state the intention and methodology of

protecting the personnel at work site. Contractor shall demonstrate their HSE commitment in protecting the people, environment and assets by implementing the HSE Management system and various HSE programs that support their HSE Policy.

3. HSE Plans

Prior to the commencement of contractual activity, the SUPPLIER /SELLER shall submit a written Project-specific/Work Specific HSE plan to HPL for review and approval. SUPPLIER /SELLER shall prepare the Project HSE plan addressing their work activities, hazards and risk controls, training needs identification, audits and safety promotional activities. Purpose of the project HSE plan is to provide assurance of effective working of the interface between the HSE Management Systems of HPL and SUPPLIER /SELLER at specific work project level.

The SUPPLIER /SELLER's Project specific plan shall address the following:

- ☐ Title page
- ☐ Project title and brief scope of work
- ☐ Organization chart
- ☐ Hazard identification plan (clearly identifying project related HSE risks, control measures and persons responsible)
- ☐ Safety Health & Environmental policy and assignment of responsibilities
- ☐ HSE Training plan
- ☐ Management of sub contractors
- ☐ Safety inspections
- ☐ Safety reports and records
- ☐ Welding and cutting equipment
- ☐ Personal protective equipment
- ☐ Tools and portable power tools
- ☐ Ladders
- ☐ Electrical installation and equipment
- ☐ Cranes and rigging equipment
- ☐ Mechanical equipment
- ☐ Transportation
- ☐ Incident reporting and investigation
- ☐ Excavation
- ☐ Fire prevention
- ☐ First-aid facilities
- ☐ General safety rules
- ☐ Emergency response and evacuation procedures
- ☐ Environmental regulatory compliance requirements and compliance process
- ☐ Manual Handling
- ☐ Checklists

4. SUPPLIER /SELLER HSE Organization & Responsibilities.

SUPPLIER /SELLER shall submit the HSE Organization chart with responsibilities to HPL HSEF department and obtain approval prior to startup of job.

Typical requirement of Safety personnel

Employee strength (including subcontractor)	Minimum requirement of HSE Personnel.
No of Employee ≤ 25	1 no. HSE Supervisor with background and knowledge of Safety.
No of Employee 25-50	2 no. HSE Supervisor with background and knowledge of Safety + 1 no. HSE Engineer
No of Employee 50-500	1 no. HSE Supervisor for every 25 employees+ 1 no. HSE Engineer for every 100 workmen

The minimum qualification for Contractor safety personnel-HSE

Supervisor-

- ☐ Should be diploma holder in Engineering (Mechanical, Chemical, Electrical, Civil) and one-year industrial safety diploma course from recognized institute.

HSE Engineer-

- ☐ Should be degree holder in Mechanical, Electrical, Civil, Science or Chemical and one-year industrial safety diploma course from recognized institute.
- ☐ Having two years of experience as a safety officer/ Engineer in oil & gas or chemical industry,

Responsibility of HSE Supervisor-

The field HSE supervisor will assist the HSE Engineer. This

position is responsible for: -

- ☐ Ensuring all the workmen & supervisor with safety gears (Safety shoes, safety helmet, cover all & other job specific PPE's).
- ☐ HSE training (organize the training programs as per the training matrix).
- ☐ Daily workplace safety inspections (to identify unsafe acts, unsafe conditions and take necessary actions).
- ☐ Identification of hazards and environmental impacts.
- ☐ Inspection of PPEs, tools / lifting accessories / slings / ropes/web belts/ D-shackles etc. (visual inspection once in week for their soundness and validity).
- ☐ Maintain daily HSE logbook (site HSE observations and preventive actions taken).
- ☐ Checking availability of safety work permit & review of work permits as per permit conditions.
- ☐ Reporting of Near miss incident, first aid & other incident to HSE Engineer.
- ☐ Identifying and correcting unsafe behaviours at work site.

- ☐ Training to their staff, supervisor & workmen regarding the operation & maintenance of Fire fighting equipments.
- ☐ Daily toolbox talk must be conducted for the workmen.

Responsibility of HSE Engineer-

SUPPLIER /SELLER's HSE Engineer assumes the lead safety position for the contractor organization and is responsible for monitoring and administering a pro-active safety program designed to provide assistance in recognizing, evaluating, and subsequently controlling or eliminating hazardous acts or conditions He / She works in close coordination with HPL's HSE Management and in conjunction with his / her Principal employer assisting in the implementation of HSE programs. Broadly the responsibilities of HSE Engineer are:

- ☐ Administer appropriate safe work practices & procedures within the worksite.
- ☐ Ensure that necessary records are maintained as per applicable HSE regulatory requirements and reports are submitted to statutory bodies as per the timelines defined by them in the applicable acts / rules.
- ☐ Ensure that all mobile lifting appliances are subjected to third party inspections as per statutory requirement & records are maintained by the responsible dept.
- ☐ Promote a high level of safety awareness of the project among the staff/workers through orientation/refresher training programs.
- ☐ Site safety visit.
- ☐ Ensure the safety work permit system.
- ☐ Ensure Safety gears (safety shoes, safety helmet, Cover all & other job specific PPE's) by all the workmen & supervisor at job site.
- ☐ Certification & testing of Safety equipments & PPE's.
- ☐ Conduct Weekly Safety inspections, track performance and report trends to his/her site management.
- ☐ Maintain all HSE related records and files associated with the organization.
- ☐ Maintain pertinent information (i.e. phone number, locations) of Emergency Response Services, physicians, and hospitals.
- ☐ Lead and assist in accident & incident investigations to ensure all accidents and incidents are properly investigated including near miss incidents, first aid cases, all recordable cases, property damage, etc. & reporting to CUGL safety executive.
- ☐ Evaluate subcontractor safety programs and performance and ensure they comply with the statutory and HSE requirements
- ☐ Review the Supervisor HSE Logbooks.
- ☐ Training to their staff, supervisor & workmen regarding the operation & maintenance of Firefighting equipments.

5. Safety Training & Toolbox Talk

Training

Before start of any job, all the SUPPLIER /SELLER personnel must be trained in a language they understand before issuing I Card for working at HPL premises & project site. The content of the training program should include the following:

- ☐ HSE management system of HPL
- ☐ Safety standards and procedures relevant for carrying out jobs.
- ☐ Special precaution specific for a site I Work based on its hazard perception.
- ☐ Hands on training for use of fire extinguisher & PPE.
- ☐ Use of PPEs in general and any special PPE specific for a particular job.
- ☐ Emergency preparedness plans including evacuation plan of HPL.
- ☐ Near miss & incident reporting.

This training is meant to make contractor and their employees familiar with existing safety practices of HPL.

Toolbox Talk

- ☐ Toolbox talks are quite effective means of communicating the workplace hazards and appropriate controls to the workers.
- ☐ It helps in better understanding and ensures proper controls to reduce the risks.
- ☐ Contractor supervisor shall deliver the toolbox talk in a reasonably peaceful area, before start of the activity.
- ☐ It should contain the brief work description, probable hazards, controls planned and mitigation measures to be taken.
- ☐ Use & benefits of PPE's & safety gears as per the job requirements.
- ☐ The duration of the toolbox talk should not exceed 15 minutes.
- ☐ A record for each toolbox talk should be maintained by the contractor indicating the topic and number of personnel attended.
- ☐ The environment of toolbox talk shall be supportive to clear doubt, if any, raised by workmen.
- ☐ The Contractor should ensure that Toolbox Talk are conducted on regular basis.

8.0 Gas Cutting & Welding Gas cutting

- Oxygen has no smell, but whilst not inflammable itself, promotes & accentuates rapid combustion, hence it can be highly dangerous, particularly in confined spaces, where it may not dissipate quickly, because the addition of only a small amount of oxygen to the normal atmosphere can create a violent risk from any stray spark or welding flame.
- Acetylene is highly flammable and with air, forms an explosive mixture which can be set off by any spark, flame or heat in the vicinity. It is therefore essential that all joints, especially on the gas cylinder, are tight; that the hoses themselves are in good condition and all the valves are turned off on completion of work.
- Acetylene cylinders are filled with a porous substance such as charcoal or kapok substances, which is soaked with acetone. Because of their design they should always be stored upright. The pressure in the cylinder is 250psi. Copper pipe must not be used for connecting hoses together, as copper & acetylene can form copper

acetylides, which are sensitive explosive. Acetylene should not be used to cut silver also. Colour code of Acetylene cylinder is maroon.

- Oxygen is supplied in cylinders pressurized to 2200psi & painted in black colour.
- All cylinders shall be protected against excessive rise in temperature.
- Cylinders stored in the open shall be screened against the continuous direct rays of the sun.
- A serious accident may easily result if oxygen is used as a substitute for compressed air. Oxygen shall not be used in pneumatic tools, to blow out pipelines, to dust clothing or work, to create pressure or for ventilation.
- Oxygen cylinder & its parts should be free from grease, oil or any combustible materials.
- Fuel-gas cylinders shall be handled carefully, (rough handling, knocks or falls are liable to damage the cylinder, valve or safety device and cause leakage). Suitably designed equipment (trolley with chain for tying the cylinder) shall be used for transporting gas cylinders.
- Fuel-gas cylinder should be placed away from source of ignition.
- Regulators or automatic reducing valve shall be used only for the gas at pressure for which they are intended.
- Always double stage regulators shall be used with flash back arrestors.
- During gas cutting, Suitable PPE's should be worn.
- Blowpipe shall be shut off when not in use.
- Lighted blowpipe shall not be left on a bench or the floor as the force of flame may cause it to move.
- Work piece shall be clamped and not held by hand.
- Hoses shall be kept away from the working area to prevent contact with flames, heat, sparks or hot spatter.
- For cutting process SOP should be followed. SOP will be provided by concerned Engineer/ In charge of HPL.
- Firefighting equipment should be kept nearby to use in case of fire.

Welding

- All the moving & rotating parts of the welding equipment shall be guarded.
- In case of engine-run welding machines, refilling shall not be done while the machine is running and spilling of oil be avoided.
- All welding cable shall be of completely insulated, flexible type, joint free & capable of handling the maximum current requirement of the work in progress.
- Any current-carrying parts passing through the portion of the holder, which the welder grips in his hand shall be fully insulated against the maximum voltage encountered to ground. Insulation of all, metallic or current carrying parts, including the jaws, which grip the electrodes, is recommended.
- Welding current should be returned to the welding machine by a single, cable from the work to the welding machine. Connection of a cable from the welding machine to a common conductor or structure on which the work rests, or to which the work is connected may be permitted.
- Pipeline containing gases or flammable liquids or conduits carrying electrical conductors shall not be used for a ground return circuit.
- Precaution shall be taken to prevent electric shock, where required ELCB/ RCCB to be used.
- Welding equipment shall always be maintained in safe working order. Periodic inspection shall be conducted.
- Either the work-piece shall be moved to a safe location for carrying gas cutting work

or Combustible materials and flammable materials shall be removed from the workplace.

- If combustible materials that cannot be moved shall be protected from close contact with flame, heat, sparks or hot slag. Suitable guards or covers such as fire-retardant blankets shall be used.
- Fire extinguishers, fire buckets with water shall be kept nearby.
- Suitable PPEs should be used while welding.
- IS 818- 1968 Code of practices for safety & health requirements in Electric & Gas welding & cutting operations should be followed.
- IS 3016-1 965 Code of practices for fire precautions in welding and cutting operations should be followed.
- Welders shall be qualified in line with API 1104, or section IX of the ASME Boiler and Pressure Vessel Code. Requirements in ASME Boiler & Pressure Vessel Code, Section IIC and Section V or API 1104 shall apply for filler materials and non-destructive examination of welds. Welder re-qualification shall be required if the welder has not performed any welding for the welding process qualified for the past 6 months. (as per OISD 226).

9.0 Safety While Working with Machinery- (Hydra, JCB, Crane, Tractor etc.)

- All gears, pulleys, revolving shafts, couplings, belt Drives, chain drives and all other rotating and moving parts of machinery shall be effectively guarded unless they are so constructed, installed or placed as to be safe as if they were guarded.
- Fencing (Guard) of rotating, moving and other dangerous parts of machinery shall not be removed while the machinery is in use or in motion and when removed, it shall be replaced as soon as practicable and in any case before the machinery is again brought into use.
- No part of machinery, while in motion or in operation shall be examined, lubricated, adjusted or repaired except by authorized workmen.
- All the limit switches & safety devices should be in working condition. It must be checked about its working before using the equipment.
- Electric power shall be shut off and relevant fuses removed when repairs are carried out to any electric machinery.
- Where the machinery in use is mobile type and during the course of operation it has to shift its location frequently, one 10 kgs stored pressure type Dry chemical powder fire extinguisher shall be carried on the machine at a suitable position on the machinery so as to ensure its easy availability.
- Only competent and reliable persons shall be employed as drivers of earth moving and lifting machinery or as signallers to give signals to the driver.
- The Operators/ Drivers shall possess valid License.
- All the documents related to vehicle & legal document should be available with operator & should be presented when asked by HPL representative.
- The driver shall not leave his cabin while the engine or motor is running or the load is suspended, and in no case, shall the machinery be left unattended, even for short periods, until all loads are removed.
- Before leaving the machine, the operator shall switch off the electric power supply or stop the engine apply appropriate motion brakes and locks to keep the machine in safe condition.
- No unauthorized person shall operate the machines.
- The driver/operator and signaller shall have good vision and undergo the medical test for vision once in a year.

- Hydra should be used only for lifting purpose; it must not be used to carry the load from one point to another point.
- All lifting tools & tackles must be tested by competent person as per WBFR before use.

10.0 Safety in Confined Space-

- Workplace, having restricted means of entry & exit and not designed for continuous human occupancy. Such as Steel valve chamber.

Hazards

1. Oxygen deficiency
2. Flammable gas
3. Toxic gas (Carbon monoxide, Hydrogen sulphide, welding fumes)
4. Electricity
5. Mechanical Hazard

Safety requirement

- Work permit must be obtained for working in confined space. Work permit for working in confined space will be issued at site after physical verification.
- Entrant, the employee who will physically enter the confined space to perform work, shall be explained about the hazards and the relevant precautionary measures related to confined space.
- There shall be an attendant employed and he shall be outside the confined space and monitor the entrants.
- All person entering a confined space shall wear Full- body harness with a lifeline where entrances are restricted to prevent normal removal of a person. In such cases, one end of the lifeline shall be with attendant to facilitate removal of person.
- Before the initial entry is made into any confined space the atmosphere shall be tested to determine whether it is safe for entering without wearing breathing apparatus or whether it is hazardous & require the wearing of breathing apparatus.

11.0 Safety in Grinding Operation-

- The wheels, which are properly labelled only, shall be used. Instruction given on the wheel must be followed.
- Grinding wheel shall never be used after its expiry date.
- Abrasive wheels shall carefully be inspected and shall not be used, if they are damaged any way.
- Wheel Guard shall be in position and fixed securely before starting the cutting- off or grinding operation. Grinding machine shall never be used without wheel guard.
- Wheel guard shall be oriented such that it prevents operator getting hit by broken pieces of wheel.
- PPEs required- Ear muffs, Gloves, dust mask, Leather apron or safety cloths, head cover, footwear.

12.0 Electrical Safety

- Proper size cable shall be selected based on the current rating to avoid over heating of cable.
- Double insulated three core/ four core cable only shall be used. Two core cables shall not be used.
- Cable must be joint free in hydrocarbon areas.
- Only metal clad and interlocked type combined switch plug- socket units shall be used. No loose wire shall be inserted in sockets without plugs.
- Cables shall be inspected before every use on all tools, lights and equipment.
- Insulation damaged cable will not be allowed for any work.

Qualification of driver:

- Educational qualification: Minimum 8th Pass
- Driving License: The drivers MUST HAVE valid driving licenses issued by competent authority for driving medium/ heavy goods carrying vehicle.
- Hazardous goods driving certificate: The driver must have a valid certificate for driving hazardous goods vehicles from govt/ PSU approved training school/institute.
- Medical fitness: The drivers must be medically fit and shall have a certificate issued from registered doctor. The certificate shall be revalidated on annual basis or as per doctor's advice.

17.0 Medical Examination

- All CEs / supervisors shall undergo mandatory Medical test before preparation of Gate Pass and at intervals of 1 year/ as advised by OHC.
- Tests to be done : BP, sugar, eyesight, color blindness, audiometry, spirometry, and any specialized test at the sole discretion of OHC depending upon the nature of job.

Welfare facilities for Workers : SUPPLIER /SELLER must arrange the following

Workers welfare : Rest room , Urinals , Toilets & Cooled drinking water facility must be arranged for all workers (Contractors / Subcontractor) working inside the factory

Exhibit -I**Close out report on HSE performance related to various contractors**

Name of the work.....

Location.....

Duration of work: From To.....

Date of successful completion.....

Report by: Name/Design. /Mob.....

Assessment Grade: A- Outstanding; B- Very Good; C- Good; D- Satisfactory; E-Notsatisfactory

Sr.No	Name of agency	Address	Agency owner	Tel. No	Overall Assessment Grade	Remark

Format for HSE Performance Assessment

Sr.No.	Parameters	Performance	Marks 0—8 0-Worst / 8-Excellent	Remarks, if any
1	Agency had its own HSE Mgmt. System aligned to HPL's requirements (Yes/No)			
2	No. of induction programs conducted/HSE awareness or training programs done (Nos.)/.....		
3	No. of HSE meetings done (Nos.)/.....		
4	No. of Toolbox meetings done (Nos.)/.....		
5	Using of appropriate PPE's &/.....		
6	following of Work Permit System./.....		
7	No. of fatal accidents (Nos.)/.....		
8	No. of non-reportable accidents (Nos.) investigated/ Nos. reported (Nos.)/.....		

9	Follow of Legal compliances			
10	Nos. of times Safety normsdeviated or penalty			
11	Housekeeping			
12	Others (4 marks)			

Performance assessment grade

Grade: A (More Than 90), B (More Than 80); C (More Than 65); D (More Than 50), E (LessThan 50);

Overall Remarks about assessment on HSE performance:

Overall HSE performance assessment (Grade A/B/C/D/E)

Signature of Engineer In-charge HPL Name

Designation Signature of HOD