Objective : - Safe work procedure for fabrication dismantling & erection
Scope : - power plant Accessories
Responsibility : - Engineer In Charge & workmen at job
PPE –s to be used :- Helmet, Safety shoes, Dust masks, Hand gloves, safety belt and goggles

Work No 1: Fabrication of Structures
Work no 2: Erection
Work No 3: Dismantling of the structures

Aspect – Impact:

Scrap generation	Resource Depletion
Dust/Fumes generation	Air pollution
Vehicle emission	Air pollution
Fire	Air Pollution

Hazards identified
Mechanical hazard

- Trapping between two objects,
- Fall of material, hammer, tools, slinged items, bolts, etc.
- Fall of person from platform,
- Entanglement
- Impact of moving / slinged items.
- Fall of material from height such as angles, channels, beams, plates ,bolts ,nuts etc. due to poor housekeeping.
- Failure of sling, D shackle, chain pulley block
- Failure of full body harness due to improper clamping, damaged rope, hooking on weak structure
- Skidding of person due to poor housekeeping, oil spillage, uneven surfaces, broken bricks etc
- Back pain while handling heavy load and improper posture
- Cut injuries from sharp edges of items
- Getting trapped / skid material stacked
- Hitting of moving vehicles, and machinery in the plant
- Slipping/Rolling of trolley while loading/unloading
- Falling of cylinders due to improper fixing of protective M.S.chain
- Fall of cylinder trolley due to failure of wheels
- Explosion due to impact on the knob
- Failure of the clutch / brake of hydra / material handling vehicles
- Sliding/rolling of the material from vehicle.
- Impact of moving / slung items, overturning / slipping of steel items.
- Failure of rope
- Bursting of tyre while moving / during erection
- Jamming of the hand while locking the tempo/truck gates.
- Getting trapped below Hydra because of failure of brakes or sudden jerks

- Getting trapped between the swing portion & the body of Hydra
- Getting hurt because of poor visibility
- Impact of other vehicles
- Skidding of wheel stoppers
- Overturning of vehicles due to uneven surfaces
- Overturning due to loosing the centre of gravity.
- Hitting of person while reversing
- Incidents due to poor illumination
- Failure of the workmen basket structure, temporary platform
- Fall of person from height due to unbalance from workmen basket, temporary platform
- Trapping of the person between basket and structure
- Fall of workmen basket, temporary platforms due to failure of the clamping
- Lifting of the truck due to unstable loading
- Hitting on surrounding structures, while negotiating a turn
- Fall of the Pal finger crane from the truck due to failure of mounting bolt
- Failure of hydraulic system
- Failure of hook of the crane
- Fall of "falka" of truck during movement.
- Fall of the extended boom from top.
- Damage of overhead structure during marching of crane / hydra
- Hitting / trapping of crane due to improper / non sequential operation
- Bending of chassis due to non levelling of stabilizers
- Failure of stabilizers
- Failure of crane / chassis due to non levelling of crane platform with water level
- Hitting of the boom due to fast operation.
- Scaffold collapse caused by instability or over loading
- Incident due to usage of mobile while driving / operation of crane / hydra / Palfinger/ Hiab basket
- Back fire during gas cutting
- Failure of welding hook due to improper / inadequate welding
- Failure of welding hook due to welding on hard faced plates / unknown plates
- Radiation due to welding

Physical hazard

- Pressure due to failure of air /hydraulic system
- Temperature

Electrical hazard

- Electric shock from overhead lines or welding
- Short circuit due to failure of electrical system
- Electric shock from battery terminal

Chemical hazard –

- Fire & Explosion

Human behavior-

- Non use of PPE
- Alcoholism
- Improper house keeping
- Overconfidence
- Negligence
- Height phobia

➢ **Safety precautions** :

- Avoid using mobile phone while working.
- Use appropriate tools required for the job.
- After job always do proper housekeeping.
- Always prevent body from line of action of force.
- Perform proper communication verbal and non-verbal as required.
- Take clearance from the concerned department if the job is related to the other department.
- Cordon the area where job is to be carried out.
- Clear dry bushes in the close vicinity of the job to be carried out.

➢ **Work No 1 : Fabrication of Structures**

- Shift the structural material from the store following instructions given in the work procedure
- Plan cutting of material for maximum use of material in structure developed and least waste generation as scrap.
- Carry out the cutting operation using gas-cutting set as per instruction give in SP 44.
- Stack all the structure at proper place in safe condition so that it will not affect others.
- Grind the sharp edges of the structure.
- Carry out the welding operation as per design supplied in the form of drawing or as per instruction of engineer in charge.
- Only skilled grinders should carryout grinding cutting and welding operation.
- All temporary welded angles, channels , beams etc has to be removed from site before giving clearance of job.
- Ensure proper housekeeping after completion of the job as per instruction

➢ **Work no 2 : Erection**

- Clean the surface where the structure/equipment is to be erected.
- Lift the material following procedure indicated
- Lock the structure, equipment at the required position.
- Carry out other remaining welding job for permanent locking. For erection of equipment at height ensure no person stands below the lifted object.
- Use safety belt while working at height.

- All temporary welded angles , channels , beams etc has to be removed from site before giving clearance of job.
- Ensure proper housekeeping after completion of the job as per instruction

➢ **Work No3:Dismantling of the structures**

- Lock the object with the rope or chain block if they handled material is large
- Do the cutting or dismantling job.
- Ensure no person stands in the area of swing of the material while cutting.
- Follow the procedure specified as per work instruction
- Do take proper care to avoid falling of material from height when job is carried out at height.
- All temporary welded angles, channels , beams etc has to be removed from site before giving clearance of job.
- Ensure proper housekeeping after completion of the job as per instruction

DO:

- Lock the material or tie with rope while handling any material.
- Use standard welding electrodes
- Ensure good welding quality.
- Study any usage of cut material for re usage so as the wastage will be minimum.
- Use D shackles While frequent opening/closing operation is involved for lifting
- All Erections should be done with proper planning
- Use proper Slings and D-shackles as per load capacity

DO NOT:

- Stand below the hanging structures.
- Weld the lifting hooks on casted material. (It must be available in design itself)
- Keep Material on slope while carrying out fabrication, erection, cutting job.
- Keep any steel items like angles, channels, beams, plates, etc on platforms at height after completion of job .