JUKI INDIA PVT. LTD.

HAZARD IDENTIFICATION, RISK ASSESSMENT & DETERMINING RISK CONTROL WORKSHEET

PROBABILITY RATING CRITERIA			SEVERITY RATING CRITERIA			RISK CATEGORIES / CONCLUSIONS		PROBABILITY	SEVERITY			
close to zero probability		Improbable	minor injuries such as small cuts and bruises, first aid cases, negligible environmental		Negligible	Hazard must be avoided (or the level of risk reduced significantly and reliably by additional controls)	EXTREME		Negligible (1	Minor (2)	Severe(3)	Extreme (4)
unlikely but conceivable		Remote	injury with short term effect, minor / short term environmental impact		Minor	Hazard should be avoided (or the level of risk reduced significantly and reliably by additional controls)	HIGH	Improbable (1)	L(1)	L(2)	L(3)	M(4)
may occur, could well occur		Possible	major injury or disability or ill health with long- term effect reportable under Legislation; single fatality, environmental pollution		Severe	Risk to be controlled as far as reasonably practicable (existing control to be monitored strictly, additional control not required)	MEDIUM	Remote (2)	L(2)	M(4)	M(6)	H(8)
may occur several times, not surprising, occurs frequently, to be expected, likely		Probable	multiple fatalities, environmental catastrophe		Extreme	Risk is controlled as far as reasonably practicable – No further control measure necessary	LOW	Possible (3)	L(3)	M(6)	H(9)	E(12)
								Probable (4)	M(4)	H(8)	E(12)	E (16)

SITE – ENDURANCE GROUP , AURANGABAD | Doc. No.: 01 | Rev. No.:01

Work Title: INSTALLATION OF SMT LINE & PERIPHERAL EQUIPMENTS

Prepared By: Vishal Rao & Team | Date:09/01/2023 | Date:14/03/2023

Sr. No.	Activity (In Sequence)	Category of Activity (Routine/Non - Routine)	Description of Hazard	Person Exposed	Category of Hazard (Routine(Normal)/Non - Routine(Abnormal)/ Emergency/ Legal)	Legal Requirement (Yes / No)	Related Risk	Existing Control measure	Likelihood (F)	Severity (S)	RPN (F x S)	Risk Category	Suggested additional Control measure (if required)	Likelihood (F)	Severity (S)	ResidualRPN (F x S)	Risk Category	New Risk Equations	Remarks
1	**Mobilization of man power & General Requirement.**	Routine	Deputed new workers	All Workers	Normal	Yes	1. Violations of site rules & regulations	1. Physical fit workers shall be deploy for the activity. 2.Temperature screening at gate by security team 2. Strict ban on liquor, Gurkha, Paan etc. 3. Safety induction & require training according to training module and site safety rules & regulation shall be done prior to enter at Work site. 4. Gate pass for all the workers & staff shall be provided. 5. Mandatory & required PPE,s shall be used by all the workers.	2	3	6	Medium	1. Report/ self declaration of suspect before entering at site 2. Close monitoring of workers health on daily basis	1	3	3	Low		

2	**Welding Work (Arc welding andCO2 welding**)	Routine	1.Slip trip hazard 2.Fire hazard 3. Loose cable and defective welding holders 4. Health issues due to welding smoke.	All Workers	Normal	No	1.Body injury 2.Property damage 3. Electrocution	1. Ensure for daily hot work permit before work started. 2. Ensure housekeeping need to be done prior to start welding work. 3. Ensure all combustible material to be removed. 4. Ensure all electrical connection must be done properly and by authorized electricians. 6.Ensure proper earthing / provide body earthing. 7. Placed fire extinguisher or sand bucket at Hot work place. 8. Ensure to provide fire blanket to avoid welding splatter spread around. 9. Ensure Barricading and signages. 10. Ensure Hot work training to be given to all the involved workers. 11. TBT should be conducted before staring the work	2	2	4	Medium	1. Ensure for close monitoring of the activity. 2. Job specific training. 3. Ensure all Electrical machines are having safety inspection tag	1	2	2	Low		
			1. Improper earthling to the parts to be welded. 2.Machine overheating. 3. Electrocution	All Workers	Normal	No	1.Body injury 2.Machine burnout/Property damage	1. Return earth is given through the welding lead only and no rebar to be used for return path. 2. Double earthing is provided. 3.All electrical connection is routed through RCCB	1	3	3	Low							
3	**Cutting work**	Routine	1.Fall of cylinder while unloading / carrying to the site 2.Leakage of gas cylinder near the valve 3.Blocking of gas cutting nozzle 4.Gas cutting hose laid in haphazard manner 5.Damaged hose 6. Fire & explosion	All Workers	Normal	No	Body injury, Property damage	1.Use cylinder trolley to transport to site. 2.Keep the leaking cylinder well away from the site, inform dealer to take away immediately. If fire occurs, keep cool the top side of cylinder in case it is full, otherwise put-off. 3. Nozzle shall be cleaned everyday by the gas cutter Flashback arrestors to be fitted in torch & cylinder 4. Gas hose not to be laid on the pathway. 5.Conditions of hoses are checkedfrequently. Damaged or tempered hoses are replaced then & there. A coupler and clamp to be used for join the hose. 6. Combustible materials to be removed. 7. Inspection and tagging of all power tools on monthly basis	2	3	6	Medium	1. Strict supervision of the activity and trained fitter for the work. 2. Check flash back arrestor on daily basis before started work	1	3	3	Low		

4	**Application of powertools**	Routine	1. Defective power tools 2. Damage power cable 3. Unguarded of moving part 4. Damage wheels 5.Tool jamming 6. Slips, trips 7.Noise, Vibration	fitter	Normal	No	Body injury, electrocution	1. All power tools shall be inspected and taggedby certified electrician at site before use. 2. No damage power cable to be allowed and daily inspection by trained person before use. 3.Loose clothing, jewellery and long hair to be kept clear of moving parts. 4.Use suitable guards where appropriate. 5.Ensure tools are maintained according to manufacturer's instructions. 6. Ensure work area is free (as practicable) from trailing cables, tools, materials, debris and spills. 7. Select power tools with lowestvibration levels. 8. Check cutting wheel expiry date and cuttingwheel RPM to be more than machine RPM. 9. All required PPE, s to be used during work.	3	2	6	Medium	1. Ensure for close monitoring of the activity. 2. Job specific trainings	1	2	2	Low		

5	Scaffold erection and dismantling	Routine	Men and materials fall due to deviation from erection sequence	Scaffolders	Normal	No	Body injury Material damage	1. Scaffolding erection shall be done by trained scaffolders. 2. Follow the approved schematic drawing. 3. Follow PTW system. 4. Safety harness with double lanyard to be used during height work. 5. Only competent workers to be allowed to work at height. 6. All openings to be covered and closed by working platform. 7. Excess materials and tools not to be kept onscaffolds. 8. Barricades at ground floor and appropriate signage's to be placed.	2	2	4	Medium	Ensure strict supervision of the activity & manual lifting training	1	2	2	Low		
			1. Wrong lifting or wrong posture	Scaffolders	Normal	No	1.Back injury 2.Ergonomic	1. Ensure all workers are going through manual handling trainings. 2. Ensure sufficient manpower is allotted for job. 3. Ensure proper illumination arrangement in work area. 5. Ensure all workers provided required PPE's.	3	2	6	Medium	Ensure strict supervision of the activity & manual lifting training	1	2	2	Low		
			1.Scaffold collapse due to missing components 2.Inadequate support	Scaffolders	Normal	No	1. Body injury. 2. Material damage	1. Ensure that all bracing, Toe Board, side support, mid rail, top rail provided to the scaffolding. 2. Scaffold shall be erected as per standard & to be inspected by competent person.	2	2	4	Medium	Ensure strict supervision of the activity	1	2	2	Low		
			Throwing the material from height	Scaffolders	Normal	No	Body injury	1.Ensure proper lighting. 3. Ensure no materials are thrown from height. 4. Ensure workers are educated in safe height work. 4. Ensure material to be up down with the help of rope.	1	2		Low							

6	**Grinding**	Routine	1. Slip trip hazard 2. Fire hazard 3.Loose cable and defective grinding wheel.	All Workers	Normal	No	1. Body injury 2. Property damage 3. Electrocution 4. Eye injury	1. Ensure for daily hot work permit before work started. 2. Ensure housekeeping need to be done prior to start grinding work. 3. Ensure all combustible material to be removed. 4. Ensure all electrical connection must be done properly and by authorized electricians. 5.Placed fire extinguisher or sand bucket at Hot work place. 6.Ensure Barricading and signages. 12. Ensure Hot work training to be given to all the involved workers. 13. TBT should be conducted before staring the work	2	2	4	Medium	1. Ensure for close monitoring of the activity. 2. Job specific training. 3. Ensure all Electrical machines are having safety inspection tag	1	2	2	Low		
7	**Painting**	Routine	1. Slip trip hazard 2. Fire hazard	All Workers	Normal	No	1. Body injury 2. Property damage	1. Ensure trained person for work. 2. Ensure for safe work practice. 3.Ensure and provide required PPE,s.	1	2	2	Low							
8	Height Work	Routine	1. Men and materials fall due to deviation 2. Wrong lifting or wrong posture 3. Inadequate support	Scaffolders	Normal	No	1.Body injury 2.Material damage	1. Safety belts tobe used during height work. 2. Only competent workers to be allowed to work at height. 3. All openings to be covered and closed by working platform. 4Excess materials and tools not to be kept on scaffolds. 5.Barricades at ground floor and appropriate signage's to be placed	3	2	6	Medium	Ensure strict supervision of the activity & manual lifting training	1	2	2	Low		

Likelihood includes Probability of Hazardous Event Occurring / may occur.

Severity means degree of consequences

Risk Control Measures Examples: (Technology / Physical improvement / Management Programs /Procedure/ Training/ Supervision or monitoring / usage of PPE / Competence / Signages / others including emergency preparedness).

RPN- Risk Priority Number

Likelihood(L) : Improbable (1), Remote (2), Possible (3), Probable (4)

Severity(S): Negligible (1), Minor(2), Severe (3), Extreme (4)

Risk Category: Extreme (1), High(2), Medium (3), Low (4) **Cut Off RPN :- 4**