

PROJECT NAME

ACTIVITY– UPS System & accessories Installation

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Serial No.	Sub-Activities	Hazards Identified (Generic & Task)	Risks Involved (People & Property)	Risk Rating			Control Measures	Residual Risk
				Severity	Probability	Initial Risk		
1.	Preparation of work	<ul style="list-style-type: none"> Unauthorized, untrained workers 	<ul style="list-style-type: none"> Cuts Abrasions 	2	A	L	<ul style="list-style-type: none"> TBT/DSTI to be conducted by the foreman/ safety officer prior to work commencement Task specific safety training to be provided Authorized personnel to undertake the job Daily safety inspection should be carried and eliminate the hazard. 	Low (ALARP)
2.	Manual Handling	<ul style="list-style-type: none"> Incorrect lifting of loads Sharp edges. Placing the object while fingers underneath. Slip/trip/fall (same level) Unsafe posture 	<ul style="list-style-type: none"> Back Injuries Cut to finger Strain Musculoskeletal Injuries 	3	C	M	<ul style="list-style-type: none"> Any lifting tasks shall be carried out by persons physically capable to do so No employee should be asked to carry loads above his capacity and in any case no load shall exceed 30kg per man. Mass of the load is more then to be equally shared Deploy enough number of personnel for lifting shall be appointed to the task depending upon the type of load to be lifted. Use easy mode of transport like trolley etc. Load not to be lifted above your shoulder Height Keep your fingers away from pinch point While placing the load Area to be illuminated with adequate lighting. Proper personal protective equipments to be used while manual handling of materials and loads. 	Low (ALARP)

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3.	Traffic and road management	<ul style="list-style-type: none"> • Collision with vehicles/ fixed installations. • Poor identification • Unauthorized/ untrained Operator/ driver, banks men • Poor access for vehicle • Public movement 	<ul style="list-style-type: none"> • Property damage • Fracture • Penalty/ compensation 	4	B	M	<ul style="list-style-type: none"> • Prior to start obtain all relevant approval from traffic department in connection to the use of road. • PTW to be approved from Company/Contractor prior to start the activity. • Trained and experienced operator/ driver and banks men to be appointed for the activity. • Restricted to unauthorized and public to enter the area. • Public vehicles and transport to be restrict to enter the work area and proper alternative way to be provided. • Warning sign boards to be placed and area to be well barricaded. • High visibility vest to be provided to flagman to increase visibility. • Flagman to be positioned to the areas wherever required. • Close supervision to be done at all times. 	(ALARP)
4.	Unloading and placing UPS with using crane or forklift	<ul style="list-style-type: none"> • Unauthorized, Untrained Workers • Failure of lifting equipment • Failure of lifting tools & tackles. • Unsafe lifting. • Swinging of material • Damaged sling/wire rope or a chain 	<ul style="list-style-type: none"> • Fatality • Fractures • Property damage • Injury to personal • Sprain and strain 	4	C	H	<ul style="list-style-type: none"> • Ensure the crane and forklift engaged is tested and having valid license and the operator has valid license and approved 3rd party certificate. • Engage trained and certified banks man. • Barrication and warning signs in to the area where lifting operation is carried out and restrict the entry. • Check list should be carried out to their vehicles by the operator prior to start any work • Use tagline for control of swing and alignment. 	M (ALARP)

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		<ul style="list-style-type: none"> • Poor maintenance of vehicle • Speedy operation • Over turn • Over load 					<ul style="list-style-type: none"> • The crane must be stopped when the wind speed exceeds 38km/hr. • SWL should be clearly marked on the crane and should be checked that it is functioning. • The crane and trucks shall be periodically maintained and a periodical check has been done by the maintenance team. • Vehicle not to be left unattended at site (ie, to be switched off mode if required and keys removed) • Safe working load should be carried by crane and trucks and secured the load before it is travelling. • Operators and riggers must wear high level of reflecting vest and adequate PPE (Shoe, helmet, leather gloves, goggles, overalls) • Vehicle routes kept free of obstructions (with spillages being cleaned up promptly) • Any lifting/ reversing that is necessary should be overseen by a trained flagman / Banksman. • Operator should follow the site speed limit and obey the traffic rules. • Colour coded system to be implemented to all lifting equipments as per the month. 	
5.	Stacking and Storing	<ul style="list-style-type: none"> • Unauthorized, untrained workers • Material fall from height • Improper stacking • Collapse of materials 	<ul style="list-style-type: none"> • Crush • Cut and abrasion • Damage to property 	3	B	M	<ul style="list-style-type: none"> • All materials shall be stored below 2 meter height. • If the material is too heavy, use hydraulic trolley to shift the material. • No storage of materials to be done in the work place, only required quantity to be taken for the job. 	Low (ALARP)

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							<ul style="list-style-type: none"> Personnel protective equipment must wear at all time during the activity. (Helmet, shoe, vest, overall, gloves, goggles, mask.) 	
6.	Installation of UPS System and accessories	<ul style="list-style-type: none"> Untrained, unauthorized Workers Material Fall Sharp edges Unsafe posture Slip, trip and fall 	<ul style="list-style-type: none"> Cut and abrasion Back Injuries Fatigue Musculoskeletal Injuries 	3	C	M	<ul style="list-style-type: none"> Authorized personnel to undertake the job Daily safety inspection should be carried out by foreman / supervisor and eliminate the hazard Close supervision to be done at all times Materials should not kept in walkways, edge of the opening. Deploy enough number of personnel for material lifting shall be appointed to the task depending upon the distance Proper communication to be maintained between the workers while doing the installation All trenches and opening should be covered prior to installation. Maintain a good housekeeping policy to prevent from slip, trip, and fall hazards. PPE to be worn at all times(Gloves, goggles, mask, helmet, shoe, vest, overall) 	Low (ALARP)
7.	Lifting by chain blocks and lifting gears	<ul style="list-style-type: none"> Unauthorized, Untrained Workers Damaged chain blocks lifting gears 	<ul style="list-style-type: none"> Fatality Fractures Eye damage Skin damage Inhalation 	4	B	M	<ul style="list-style-type: none"> Authorized personnel to undertake the job 3rd party certified chain blocks to be used and to follow the colour code. Chain pulley block's hook shall have safety Latch. Visual inspection shall be carried out prior to use of chain block & lifting gears. 	Low (ALARP)

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		<ul style="list-style-type: none"> Slip, trip and fall Damaged valve Collision 					<ul style="list-style-type: none"> Warning signs and barrication to be provide around the area to restrict the other workers of the hazards. Control Measures Maintain a good housekeeping policy to prevent slip, trip, fall hazards 	
							<ul style="list-style-type: none"> Close supervision to be done at all times. Proper communication to be maintained between the workers while doing the activity Appropriate PPE to be worn while handling the cylinders (Helmet, shoe, vest, overall, Leather gloves, goggles and if required to wear organic vapor gas cartridge. 	
8.	Working with Hand tools. (Angle cutter, Spanner)	<ul style="list-style-type: none"> Slip, trip and fall Damaged warn out hand tools Flying objects Mushroom Heads Using incorrect type 	<ul style="list-style-type: none"> Fatigue Trigger finger Cuts and abrasions 	3	C	M	<ul style="list-style-type: none"> Defective tools should not be issued or used to perform the task, to be checked by store keeper Don't extend the spanner by using a pipe as an extension bar Never use a file as a lever Never use a screw driver as a chisel Don't work with oily or greased hands Use eye/ face protection when there is flying materials hazard, wear gloves while required to protect the hands Use right tools for the job 	Low (ALARP)

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9.	Working with power tools (Grinder, Drill machine)	<ul style="list-style-type: none"> Defective equipment Electricity Improper use of equipment Poor maintenance Untrained workers Flying object Noise and vibration Fire Dust 	<ul style="list-style-type: none"> Hearing losses Eye injury Crushing Back injury Burns Electrocution Ringling in the ear / Deafness 	3	C	M	<ul style="list-style-type: none"> PTW to be applied and obtained prior to start, If spark producing activity is performed Defective tools should not be issued or used to perform a task Monthly inspection should be carried out by the electrician and record to be kept at the store All portable power tools should be fitted with adequate fuse protection either in the tool body or in its electrical plug. The weight, size and type of tool should be selected to suit the job being carried out. Don't lay the cables around the access way, it should be proper routing Industrial distribution board and socket only to be used at site No joints shall be made in electrical cable. Cable hangers shall be used to avoid the direct contact of power tools cable with the scaffolding members. Electrical connection shall be routed through ELCB only. Correct rate of ELCB should be used (Ex:- 30ma only acceptable) Only those persons who have been adequately trained and experienced in the use of the tool should be allowed to use the same. Power tools shall have inspection sticker. Tools should be stored and maintained in good working condition. Appropriate PPE Should use (Goggles, Mask, Ear plug, Gloves, Shoe, Helmet, Overall, Vest) 	M (ALARP)

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10.	Working in near floor openings	<ul style="list-style-type: none"> Material/equipment fall from height Slip/trip/fall 	<ul style="list-style-type: none"> Property Damage Fracture 	4	B	M	<ul style="list-style-type: none"> PTW to be applied and obtained prior to start work Authorized person to do the job. Rigid barrication and toe board to be provided to all external edges and where a fall can occur. Warning signboards to be provided in those areas. PPE to be used at all times (Helmet, Shoes, Vest, Overall, Harness) 	(ALARP)
11.	Working in hot weather	<ul style="list-style-type: none"> Heat Stress 	<ul style="list-style-type: none"> Dehydration Sunburn Skin Cancer 	2	B	M	<ul style="list-style-type: none"> Drink plenty of water Employees shall be trained about heat stress symptoms & first aid measures. Avoid highly physical tasks during the hottest part of the day Isotonic drinks to be provided Provide sufficient rest breaks based on the humidity & temperature conditions 	Low (ALARP)

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12.	While working at night shift	<ul style="list-style-type: none"> • Poor illumination • Slip/trip/fall 	<ul style="list-style-type: none"> • Fatality • Cuts 	3	B	M	<ul style="list-style-type: none"> • Proper illumination to be provided • light post to be secured from fall • Proper cable management system to be Followed • All materials to be staged in proper manner without obstacles 	Low (ALARP)
13.	Work Completion	<ul style="list-style-type: none"> • Poor housekeeping • Slip/trip/fall 	<ul style="list-style-type: none"> • Fire 	2	A	L	<ul style="list-style-type: none"> • General housekeeping, Remove all surface, unwanted waste materials from the building • All necessary precautions will be adopted to prevent fire 	Low (ALARP)

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RISK MATRIX

					Probability				
					A	B	C	D	E
Severity	People	Assets	Environment	Reputation	Improbable 1 in 100,000 Years	Remote 1 in 10,000 Years	Occasional 1 in 1000 years	Probable 1 in 100 years	Frequent 1 in 10 years
5-Catrophic	Multiple fatalities or permanent total disabilities	Extensive damage	Massive effect	International impact	<p align="center">High Risk</p>	<p align="center">Medium Risk (ALARP)</p>	<p align="center">Low Risk</p>		
4-Severe	Single fatalities or permanent total disabilities	Major damage	Major effect	National impact					
3-critical	Major injury or health effects	Local damage	Localised effect	Considerable impact					
2-Marginal	Minor injury or health effects	Minor damage	Minor effect	Minor impact					
1-Negligible	Slight injury or health effects	Slight Damage	Slight effect	Slight impact					

HIGH	<p>3-E 4-C,D,E 5-B,C,D,E</p>
MEDIUM	<p>1-D,E 2-B,C,D,E 3-A,B,C,D 4-A,B 5-A</p>
LOW	<p>1-A,B,C 2A</p>