Hazard Analysis CONVERGENT SYSTEMS

r	1		Risk bef	ore Mitigation	Measures		Risk A	fter Mitigation M	leasures	
	System	Hazard Description	Severity	Likelihood	Risk Hazard Index	Risk Elimination or Mitigation Measures	Severity	Likelihood	Risk Hazard Index	PPE TO BE USED
1	Mobilization of Personnel, vehicles, Equipments & Delivery of material to Job site.	Physical hazard while handling material. • Working at height. • Struck by moving vehicle. • Unskilled Labor • Unconditioned / damaged Equipment • Vehicle accident	111	В	4	Compliance on PTW requirements to be ensured. • Trained and competent person to be monitored. • Conduct TBT to all craftsmen involved in the work activities. • Compliance with GNFC safety requirements to be ensured. • Only competent and licensed drivers to deliver material at site. • Driver to be made aware of requirements and deliver to designated area only. • Ensure all personnel are properly trained and competent with appropriate PPE. • Ensure to equirement trailer.	l Catastrophic	E Extremely Unlikely	12	Basic PPEs (Safety helmet, Safety Glass, Leather gloves, Safety Shoe) • Full body harness • Respirator • Dust coverall
2	Fabrication of plate and structure material. Welding, cutting & grinding (Hot Work) if	Hot work • Careless handling of lighted cutting torch, hot particles may cause burns. • Using cutting torch too close to combustible materials / personnel. • Gas leaking from hoses / valves or flash back arrester	П	A	3	Plasma cutting should be carried out in an isolated area. • Enough drinking water should be made available in the fabrication yard. • Proper breaks should give to the employees engaged in the plasma cutting. • Flask back arrestor at both sides shall be used for gas cutting set.Wear protective clothing, gaunitels, face shield and welding glass along with other regular PPEs. • Ensure to have proper fire blanket and barrication. • Keep suitable fire extinguisher nearby with a fire watch. • Keep hoses clear of sharp edges & abrasives. • Do not allow hot metal or spatter to fail on hoses. • Clamp the work piece, don't hold it by hand. • Work in safe location and maintain safe distance of at least 5 feet distance between two	111	В	7	
3	Hot work (welding, cutting grinding)	flash in eyes burr in eyes		В	9	WEAR SAFTEY GOGGLES AND WELDING GOGGLES	IV	E Extremely	20	Basic PPEs • Rubber Gloves
4	Cutting of steel using bar cutting machine	Crush Injury Hil the men due to temper.	11	A	3	cristic an personnen avec undergone SIE Safety Induction. • Ensure PTW Issued by the PMC before starting the work. • Deploy trained worker for to cut the steels • Tool Box Talks to be conducted before start of the activity. • Ensure the machine is inspected by EHS dept before entering to site and color coded. • Ensure safety guard provided for the rotating parts of machine. • Pedal guard/Hand lever protection against accidental activation. • Ensure cover guard protection	IV	С	18	Basic PPEs
Ę	INSTALATIO N OF TRANSPORTE R	FALLING DOWN	11	В	5	Saftey belts to be used enough manpower top be deployed while instalation		D	14	Basic PPEs • Fall arrestors • Full body bacross
é	Painting work ON structure	Fall of person from height	II	В	5	Unity trained employees should be engaged in working at height. • Employees should be medically fit for working at height. • Working at Height" permit should be taken prior to starting the work. • FBH shall be provided for height work. • If ladders are used, it should be secured prior to start working on it. • Proper life lines should be included add upded while working	111	D	14	Basic PPEs Fall arrestors • Full body harness
,	, Painting work ON structure	Exposure to paint fumes		C Occasional	11	sufficient ventilation should be maintained at the place of paining. • Canister masks should be ensured. • No hot work should be carried out in the nearby confined spaces,withyou (ast, jestion,		D	14	Canister masks
8	Torque /tensioning	Pressurized system • Bursting of hoses. • Personal injury	п	В	5	Jump. Ensure proper supervision at all times Use calculated value of pump pressure in case of bolt tensioning. Release pressure in hose before disconnection. • Barricade area at ground level to prevent unauthorized entry. • Tommy bar should be tied with		D	14	Basic PPEs

Hazard Analysis CONVERGENT SYSTEMS

9	Hydro Testing/ pneumatic test if required.	 Slip/trip/fall Pinch hazards Over pressurization Personnel injury due to hose rupture. Unauthorized entry 		В	4	Valid work permit shall be obtained from GNFC before start of work. • All employees/ workers should wear necessary PPES. • Ensure proper housekeeping around the area • Ensure TBT meeting before start of work. • Inspect to all equipments before use at site. • Barricade the work area. • Display related safety sign / caution boards. • Use cather gloves • Use cather dorves • Use cather and pressure tested hoses for hydro test. • Ensure the hose connected property with with check and safety pin fixed.		D	14	Basic PPEs
10	Confined Space Entry for cleaning and repair activities (if required)	 Sharp surfaces Possible hydrocarbon vapors present. Insufficient Oxygen Levels. Insufficient light. Slippery surfaces 	11	C Occasional	6	Obtain a valid Permit to Work as well as a Confined Space Permit Issued at the site - Ensure PTW is in place and ensure check for Gases and shall ensure that Oxygen 20.8% & LEL - 0% which need to be monitored continuously. - All crew members working in configned space shall be trained	IV	D	19	Hard hat, safety glasses, • Dust mask, • coverall, • Rubber gum boots, • Leather
11	Working at night	Poor visibility Silpping and Tripping hazard Lack of supervision	11	C Occasional	6	Ensure night work permit - Ensure adequate illumination + Hoses cables should be laid in proper manner. - Paint box should be removed from the scaffolding platform on daily basis. - Platform should be maintained uniform & steps should be avoided. - Proper lighting arrangements should be made at each	IV	D	19	Safety helmet, • Safety Goggles, • Respirator • Dust coverall, • Leather gloves,
_						Ensure frequent cleaning of				
12	Housekeepin g	Possible slipping and failing of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the busiekseening ich	IV	D	20	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
12	Housekeepin g	Possible slipping and failing of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeeping job	IV	D	20	Safety helmet, • Safety Goggles, • Respirator • Dust coverall, • Leather gloves,
12	Housekeepin g	Possible slipping and falling of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during. the housekeeping joh	IV	D	20	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
12	Housekeepin g PREPARED BY	Possible slipping and falling of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeeping lob	IV		20	Safaty helmet, - Safety Goggles, - Respirator - Dust - Leather gloves,
12	Housekeepin g PREPARED BY	Possible slipping and failing of personnel 	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeering lob	IV		20 20	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
12	Housekeepin g PREPARED BY	Possible slipping and failing of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekooping lob	IV Por COT		20 	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
12	Housekeepin g PREPARED BY	Possible slipping and falling of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose at ripping hazard during the housekeeping job	Por COT	D MERGENT SYSTE	20 MS	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY	Possible slipping and failing of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard divring the housekeening ich	IV For COT	D INTERGENT SYSTE	20 #8	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
12	Housekeepin g PREPARED BY	Possible slipping and failing of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard durino the bousekeeping loh	IV For COT	D TVERGENT SYSTE	20 MS	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
12	Housekeepin g PREPARED BY	Possible slipping and failing of personnel	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekooring inh	Por COr	D AVERGENT SYSTE	20 #\$	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY	Possible slipping and failing of personnel * MANDAR DESHPANDE		Α	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening joh	IV Por COR	D AVERGENT SYSTE PROPRIET	20 MS ~	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY escription atastrophic Criticel	Possible slipping and failing of personnel : MANDAR DESHPANDE Hazard Severity Death or serious injury to th Maing onperty damage to the	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening lob	Por COT		20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY escription attastrophic Critical Marginal	Possible slipping and failing of personnel : MANDAR DESHPANDE Hazard Severity Death or serious injury to th Minor injury to the public or m	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening ich	Por COR	D WERGENT SYSTE PROPRIET	20 MS	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY Children Children C	Possible slipping and failing of personnel	IV	A		work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening joh	IV		20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY Critical Marginal Negligible	Possible slipping and failing of personnel	IV ne public. sublic, major inor safety- ry to the public	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening lob	Por COT	D WERÖENT SYSTE	20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY Marginal Negligible	Possible slipping and failing of personnel : MANDAR DESHPANDE Hazard Severity Death or serious injury to th Minor injury to the public or m Not serious enough to cause inju	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening lob	IV		20 MS	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY Critical Marginal Negligible Bescription Frequent	Possible slipping and failing of personnel MANDAR DESHPANDE Hazard Saverity Death or serious injury to th Major property damage to the Major property damage to the Major property damage to the Major serious enough to cause inju Not serious enough to cause inju	IV ne public. bublic, major inor safety- ry to the public f an item, with	A		work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening joh			20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREP	Possible slipping and failing of personnel	IV	A		work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard durinor the housekeening lob	Por COT	D WERGENT SYSTE	20	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY Marginal Marginal Negligible Description Frequent Probable Crasional Remote	Possible slipping and failing of personnel : MANDAR DESHPANDE Major property damage to the Minor injury to the public or m Not serious enough to cause inju Individual Item Likely to occur often in the life o Will occur several times in the li	IV IV IV IV IV IV IV IV IV IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard durino the housekeening loh	IV		20 MS	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY PREPARED BY PREPARED BY PREPARED BY Contical Marginal Neggigible Frequent Probable Occasional Remote	Possible slipping and falling of personnel MANDAR DESHPANDE MANDAR DESHPANDE Major property damage to the Major property damage to the Major property damage to the Major property damage to the Major serious enough to cause inju Most serious enough to cause inju Likely to occur sometime in the Likely to accur sometime in the Unikkely but possible to occur is So unikkely, that possible to occur	IV se public. sublic, major inor safety- ry to the public fan item, with fe of an item, the life of an item, the fe of an item,	A		work station from obstructing, unwanted material / objects and silipery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening Joh			20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY PREPARED BY Critical Critical Critical Critical Marginal Negligible Description Frequent Remote Remote Emmote	Possible slipping and failing of personnel	IV te public. public, major inor safety- ny to the public fan item, with fe of an item, ithe life of an courrence may	A		work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening lob		D WERGENT SYSTE	20	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREP	Possible slipping and falling of personnel : MANDAR DESHPANDE Minor property damage to the Minor prop	IV IV ublic. major inor safety- ry to the public f an item, with fe of an item, ife of an item, ccurrence may actions must be	A	13	work station from obstructing, unwanted material / objects and Silpery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeeping into 	Por COR		20 MS	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY Critical Critical Critical Marginal Negligible Description Frequent Probable Occasional Remote armote armote gray 1 - High (Possible slipping and falling of personnel MANDAR DESHPANDE MANDAR DESHPANDE Major property damage to the Major property damage to the Major property damage to the Major property damage to the Major use out in the life of Major use out and the public or m Not serious enough to cause inju Likely to occur sometime in the Likely to occur sometime in the Unlikely but possible to occur in So unlikely, it can be assumed o (1-6,8). Elimination or mitigation a	IV ne public. sublic, major sublic, major inor safety- ry to the public of an item, with fe of an item, the life of an accurence may accions must be	A	13	work station from obstructing, unwanted material / objects and silipery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening john 			20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY PREPARED BY PREPARED BY PREPARED BY Critical Critical Critical Marginal Negligible Description Frequent Remote mely Remote gory 1 - High (gory 2 - Low (7	Possible slipping and failing of personnel	IV te public. public, major inor safety- ry to the public f an item, with fie of an item, the life of an courrence may actions must be	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening lob			20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREP	Possible silpping and falling of personnel : MANDAR DESHPANDE : MANDAR DESHPANDE Minor injury to the Minor property damage to the Minor property damage to the Minor injury to the public or m Not serious enough to cause inju Individual Item Likely to occur often in the life ous Will occur several times in the I Likely to occur sometime in the I Likely to occur sometime in the I Unikely but possible to occur in So unlikely, it can be assumed o (1-6,8). Elimination or mitigation a 7,9-20). Risk is acceptable.	IV	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeeping into 	Por COR		20	Safety helmet, - Safety Goggles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY PREPARED BY Critical Critical Critical Marginal Negligible Description Frequent Frobable Occasional Remote emely Remote gory 1 - High (gory 2 - Low (7	Possible slipping and failing of personnel Manor Description Manor Description Maior property damage to the Maior serious injury to the public or Most serious enough to cause inju Likely to occur sometime in the Umlikely but possible to occur in So unlikely, it can be assumed o (1-6,8). Elimination or mitigation a 7,9-20). Risk is acceptable. Risk hazard Index	IV he public. public, major inor safety- ry to the public f an item, with fe of an item, the iffe of an accurrence may accions must be	A	13	work station from obstructing, unwanted material / objects and silipery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening ich			20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREP	Possible slipping and failing of personnel	IV te public. public, major inor safety- ny to the public f an item, with fe of an item, the life of an courrence may actions must be IV 13	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard durinon the housekeening lob			20	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY Marginal Negligible Caraisonal Remote merely Remote gory 1 - High (gory 2 - Low (7 A B	Possible silpping and failing of personnel *: MANDAR DESHPANDE MANDAR DESHPANDE Mage property damage to the Minor injury to the public or m Minor injury to the public or m Minor injury to the public or m Minor ingury to accur often in the life Unlikely but possible to occur in So unlikely, it can be assumed o (1-6,8). Elimination or mitigation a 7,9-20). Risk is acceptable. Risk hazard Index II	IV IV IV IV IV IN IF of an item, with if of an item, if of an item, i	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeeping lob			20	Safety helmet, - Safety Goggles, - Respirator - Dust - Coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY PREPARED BY Attastrophic Critical Critical Critical Critical Marginal Negligible Description Critical Remote emely Remote emely Remote egory 1 - High (iggory 2 - Low (7 Critical Remote emely Remote energy 1 - High (iggory 2 - Low (7 Critical Remote Re	Possible slipping and failing of personnel MANDAR DESHPANDE MANDAR DESHPANDE Major property damage to the Major property damage to the Major or performant Major and the public or m Not serious enough to cause inju Likely to occur sometime in the Umlikely but possible to occur in So unlikely, it can be assumed o (1-6,8). Elimination or mitigation a 7,9-20). Risk is acceptable. Risk hazard Index II	IV he public. public, major inor safety- ry to the public of an item, with fe of an item, the life of an accurrence may actions must be IV 13 16 18	A	13	work station from obstructing, unwanted material / objects and silipery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard during the housekeening into 			20 MS 	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,
	Housekeepin g PREPARED BY PREPARED BY PREPARED BY PREPARED BY Probable Occasional Remote mely Remote mely Remote mely Remote and the second second report of the second second report of the second second second gory 1 - High (gory 2 - Low (a B B C C D	Possible slipping and failing of personnel	IV te public. public, major public, major inor safety- ny to the public f an item, with fe of an item, the life of an ccurrence may actions must be IV 13 16 18 19	A	13	work station from obstructing, unwanted material / objects and slippery floor. • Any spillage should be cleaned up immediately and stored into approved container. • Make sure that hoses used are arrange in such a way that it will not pose a tripping hazard durinon the housekeening lob		D WERGENT SYSTE	20	Safety helmet, - Safety Gogles, - Respirator - Dust coverall, - Leather gloves,