

Table 1 Hazard Severity

Severity Ranking	Scale	Severity	Description
	1	Insignificant	Normal work can be resumed after basic first aid (time loss is less than one working day).
	2	Minor(Slightly harmful)	Time loss is more than one working day and less than 48hrs. Not reportable to regulatory body.
	3	Moderate	Time loss more than 48hrs. Injury / disease reportable to Regulatory body.
	4	Serious / Very serious(Very harmful)	Major injury / Occupational Disease. Reportable to Regulatory body.
	5	Very Critical(Extremely harmful)	Fatality. Reportable to Regulatory body.

Table 2 Likelihood of Occurance of Hazard

Likelihood Ranking(L)	Scale	Likelihood	Description
	1	Improbable	Hazardous event or exposure may occur in exceptional circumstances. (Very remote chance). So unlikely, it can be assumed it will not occur.
	2	Remote	Hazardous event or exposure is unlikely to occur but possible (Rare chance).
	3	Occasional	Hazardous event or exposure is likely to occur sometime.
	4	Probable	Hazardous event or exposure has a significant chance to occur. Will occur several times.
	5	Frequent	Hazardous event or exposure is certain to occur.

Table3 Risk Rating Matrix

Risk Rating = L X S Low: 1-6 (Green zone) Medium: 7-12 (Yellow zone) High: 14-20 (Red zone)		LIKELIHOOD (PROBABILITY) (L)				
		1 Improbable	2 Remote	3 Occasional	4 Probable	5 Frequent
Severity Ranking(S)	5 Very Critical (Extremely harmful)	5	10	15	20	25
	4 Serious / Very serious (Very harmful)	4	8	12	16	20
	3 Moderate	3	6	9	12	15
	2 Minor (Slightly harmful)	2	4	6	8	10
	1 Insignificant	1	2	3	4	5

1-6 Low	May be acceptable; however, due care should be employed and task reviewed to see if risk can be reduced further.
7-14 Med	Task should only proceed with appropriate authorisation. Where possible the task should be redefined and/or measures employed to reduce the residual risk.
15-25 High	Task must not proceed. It should be redefined or further control measures put in place to reduce risk. Controls should be re-assessed prior to the task commencing.

Thanking you,

For Nesara Instruments & Services.

Authorised Signatory



HAZARD, RISK REFERENCE

Hazard Reference
Competence
Confined Spaces
Damaged/Faulty Equipment
Dimensions/Weight
Emergency Arrangements
Equipment Failure
Explosive
Flammable
Hazardous Substances
Inadequate Communications
Inadequate Planning
Incorrect Procedures
Insufficient Numbers
lack of air
Lack of Information/Instruction/Training
Lack of Training
Lighting
Maintenance
New/Inexperienced personnel
Noise
Radioactive Substances
Scaffold/Ladders
Stability/Collapse of Equipment
Temperature
Use of Tools
Ventilation
Vibration
Visitors/Unauthorised personnel
Waste
Weather
Work at Height
Fall From Height
Hand/Power Tools
Handling
Machinery
Fixed/Flying/Falling Objects
Transport
Electricity
Lone Working
Repetitive Working

Effect Reference
Asphyxia
Burns
Carcinogenic
Contamination
Corrosive
Crushing
Cuts/Abrasions
Drowning
Electrocution
Entanglement
Entrapment
Explosion
Exposure to Hazardous Substances
Exposure to Ionising Radiation
Exposure to Noise
Financial Liability
Fire
Impact
Irritant
Shock
Slips, Trips, Falls
Stress

Control Reference
Additional lighting
Area barred off
Breathing apparatus
Use of PPE (i.e. Dust mask Safety Helmet, gloves, glasses overalls boots etc.)
Forced ventilation
Fume mask
Use of Lifejacket
Locked isolation (electrical)
Locked isolation (mechanical)
Permit to work
Personal distress alarm
PPE
Safety harness
Watchman
Supervisor

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HAZARD IDENTIFICATION & RISK ASSESSMENT

Document Number: IND.OH&S.F01.00

Activity: Office Work

HIRA Number: NIS/HIRA-OFCWRK-01

Assessment team: Mr. Avinash S, Mr. Subramanya S

Approved By Subramanya S

Notes: Activities:- Office works

Date of Assessment: 02/01/2023

Job Steps	Type of activity	Hazard			Base Risk			Any Legal & other Requirements are applicable? (Yes/No)	Description of Legal & Other Requirement	Controls		Residual Risk			
		Hazard Description	Risk	Persons at risk	Hazard Severity (S _a)	Likelihood (L _a)	Base Risk Rating (S _a XL _a)			List Controls Required	Hazard Severity (S _a)	Likelihood (L _a)	Risk Rating (S _a XL _a)	Risk Acceptability	
Separate the job into individual tasks and record in sequence.	Routine Non-routine Emergency	Describe all hazards for each task based on observations and experience. Note: Additional hazards may be caused by interaction with other work.	Describe all effects that may be realised if hazard was to occur.	Whether task is affecting other agency employees, visitors?	Identify severity with no controls in place for each hazard.	Identify likelihood with no controls in place for each hazard.	Classify risk rating from matrix for each hazard.			Describe fully all controls applicable for each hazard. All controls must reduce severity, likelihood or both	Identify severity with controls in place for each hazard.	Identify likelihood with controls in place for each hazard.	Classify risk rating from matrix for each hazard.	Check whether residual risk is acceptable.	
Filing Cabinets / Cupboards	Routine	Over filling of the cabinet	strain	Employees	3	2	6	No	NA	Cupboards provided instead of cabinets	2	1	2	Acceptable	
		Finger caught in drawer door	Finger injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
Office computers	Routine	computer screen is too high	strain in neck	Employees	3	2	6	NO	NA	monitor kept at eye level	2	1	2	Acceptable	
		glare from screen	eye strain	Employees	3	3	9	NO	NA	monitor kept at a position so that there is no glare. Flat screens provided	2	1	2	Acceptable	
		reflection on monitor	eye strain	Employees	3	3	9	NO	NA	monitor position such that there is no reflection on it	2	1	2	Acceptable	
		monitor too close to eyes	eye strain	Employees	3	2	6	NO	NA	monitor kept at eye level	2	1	2	Acceptable	
		keyboard kept at wrong height	wrist strain	Employees	3	2	6	NO	NA	keep keyboard at ht. where the arms are parallel to the ground	2	1	2	Acceptable	
		referring to document while typing	strain in neck	Employees	3	3	9	NO	NA	Stretching Exercise	2	2	4	Acceptable	
Office seating	Routine	Improper back support on chair	Back pain	Employees	3	4	12	NO	NA	proper posture chairs used	2	1	2	Acceptable	
		Chair arm rest can jam the finger between them and the table edge	injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
		Fall from chair	injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
Office Illumination	Routine	Improper Light	Eye Strain	Employees	1	2	2	NO	NA	Ensure proper Light	2	1	2	Significant/Acceptable	
Telephone	Routine	No proper location, so have to stretch to receive a call.	Strain in arms	Employees	1	3	3	NO	NA	keep phone accessible	2	1	2	Acceptable	
Office Entrance	Routine	failure to notice glass doors	Injury	Employees	3	4	12	NO	NA	Frosted Glass doors provided	2	1	2	Acceptable	
Office floor	Routine	Fall due to slippery floor	injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
Tea serving	Routine	fall of tea on body	injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
		dashing with pantry person	injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
		falling of broken cup on body	injury	Employees	3	3	9	NO	NA	Self awareness	2	2	4	Acceptable	
Office area	Emergency	fire hazard	fatality	Employees, visitor	1	5	5	Yes	1)Fire extinguish equipment sufficient to extinguish any probable fire. 2) trained persons required to operate the fire extinguishing equipment 3)fire extinguishing equipment provided s properly maintained and inspected at regular intervals of not less than once in a year by the responsible person and a record of such inspections is maintained	On site emergency plan	1	3	3	Significant/Acceptable	

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HAZARD IDENTIFICATION & RISK ASSESSMENT

Document Number: IND.OH&S.F01.00

Activity: **Behavioral Aspects**

HIRA Number: NIS/HIRA/BA-01

Assessment team: **Mr.Avinash S, Mr. Subramanya S**

Approved By: **Mr. Subramanya S**

Notes: Activities:- Behavioral Aspects

Date of Assessment:02/01/2023

Job Steps	Type of activity	Hazard			Base Risk			Any Legal & other Requirements are applicable? (Yes/No)	Description of Legal & Other Requirement	Controls	Residual Risk			
		Hazard Description	Risk	Persons at risk	Hazard Severity (S _a)	Likelihood (L _a)	Base Risk Rating (S _a XL _a)			List Controls Required	Hazard Severity (S _r)	Likelihood (L _r)	Risk Rating (S _r XL _r)	Risk Acceptability
<i>Separate the job into individual tasks and record in sequence.</i>	<i>Routine Non-routine Emergency</i>	<i>Describe all hazards for each task based on observations and experience. Note: Additional hazards may be caused by interaction with other work.</i>	<i>Describe all effects that may be realised if hazard was to occur.</i>	<i>Whether task is affecting other agency employees, visitors?</i>	<i>Identify severity with no controls in place for each hazard</i>	<i>Identify likelihood with no controls in place for each hazard.</i>	<i>Classify risk rating from matrix for each hazard</i>			<i>Describe fully all controls applicable for each hazard. All controls must reduce severity, likelihood or both</i>	<i>Identify severity with controls in place for each hazard.</i>	<i>Identify likelihood with controls in place for each hazard.</i>	<i>Classify risk rating from matrix for each hazard</i>	<i>Check whether residual risk is acceptable.</i>
Interpersonal Conflict between Employees	Routine	Verbal & Physical Abuse	Mental Stress,Physical Injury to body	Employees	2	2	4	No	NA	Isolation wherever possible in case of specialised activities.Impartial behavioural towards both parties	1	1	1	Acceptable
Working in Team to achieve desired output as per plan.	Routine	Neglect caused due to isolation in group	Mental Stress	Employees	3	2	6	NO	NA	Promote team building, Annual Rewards, Weekly team building activities	2	1	2	Acceptable
Long working hours on customer site	Routine	Mental stress	Depression/Mental Imbalance	Employee/ Customer representative	1	2	2	NO	NA	Customer to avoid overworking of the employee while on field.	1	1	1	Acceptable

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HAZARD IDENTIFICATION & RISK ASSESSMENT

Document Number: IND.OH&S.F01.00

Activity: Business travelling & Site travelling

HIRA Number: NIS/HIRA/BT&ST-01

Assessment team: Mr. Avinash S, Mr. Subramanya S

Approved By: Subramanya S

Notes: Activities:- Travelling site (To & From)

Date of Assessment:02/01/2023

Job Steps	Type of activity	Hazard			Base Risk			Any Legal & other Requirements are applicable? (Yes/No)	Description of Legal & Other Requirement	Residual Risk				
		Hazard Description	Risk	Persons at risk	Hazard Severity (S _a)	Likelihood (L _a)	Base Risk Rating (S _a XL _a)			List Controls Required	Hazard Severity (S _r)	Likelihood (L _r)	Risk Rating (S _r XL _r)	Risk Acceptability
Separate the job into individual tasks and record in sequence.	Routine Non-routine Emergency	Describe all hazards for each task based on observations and experience. Note: Additional hazards may be caused by interaction with other work.	Describe all effects that may be realised if hazard was to occur.	Whether task is affecting other agency employees, visitors?	Identify severity with no controls in place for each hazard.	Identify likelihood with no controls in place for each hazard.	Classify risk rating from matrix for each hazard			Describe fully all controls applicable for each hazard. All controls must reduce severity, likelihood or both	Identify severity with controls in place for each hazard.	Identify likelihood with controls in place for each hazard.	Classify risk rating from matrix for each hazard	Check whether residual risk is acceptable.
Travel of site personal (to & from)	Routine	standing on door step while travelling via vehicle.	falling from the vehicle causing major injury or fatality.	Employee, public	5	3	15	yes	Admin team with help of customer support	Nesara WHS & Safe work procedure instructions has to be followed.	5	1	low	Acceptable
	Routine	crossing of roads.	hit by vehicles causing loss of body parts or fatality	Employee, public	5	3	15	yes	Admin team with help of customer support	Nesara WHS & Safe work procedure instructions has to be followed.	5	1	low	Acceptable

Thanking you,

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Authorised Signatory



HAZARD IDENTIFICATION & RISK ASSESSMENT

Activity: INSTALLATION, SERVICE OF EQUIPMENT

HIRA Number: NIS/HIRA/IS WRK-01

Assessment team: Mr. Avinash S, Mr. Subramanya S

Approved By: Subramanya S

Notes: Activities : Installation and service of Spectrometers, Gas analyzers, XRF analyzers, GC/LC/HPLC/ICPOES.

Date of Assessment: 02-01-2023

Job Steps	Type of activity	Hazard			Base Risk			Any Legal & other Requirements (Yes/No)	Description of Legal & Other Requirement	Controls	Residual Risk			
		Hazard Description	Risk	Persons at risk	Hazard Severity (S _a)	Likelihood (L _a)	Base Risk Rating (S _a XL _a)				List Controls Required	Hazard Severity (S _r)	Likelihood (L _r)	Risk Rating (S _r XL _r)
Separate the job into individual tasks and record in sequence.	Routine Non-routine Emergency	Describe all hazards for each task based on observations and experience. Note: Additional hazards may be caused by interaction with other work.	Describe all effects that may be realised if hazard was to occur.	Name all types of persons at risk. Persons not related to the task may also be effected.	Identify severity with no controls in place for each hazard.	Identify likelihood with no controls in place for each hazard.	Classify risk rating from matrix for each hazard			Describe fully all controls applicable for each hazard eg. If PPE is used it must be specifically described. If a control can only be verified by documentation then it must be available. All controls must reduce severity, likelihood or both	Identify severity with controls in place for each hazard.	Identify likelihood with controls in place for each hazard.	Classify risk rating from matrix for each hazard	Check whether residual risk is acceptable.
Deployment of workmen	R	Electric shock due to open wires	Fatal/ Jolt	Employees	3	3	9	yes	NA	1. Appropriate PPEs such as full body harness (work positioning belt), helmet (chin strap is tied properly), cotton gloves & safety shoes shall be used. 2. Job specific training shall be imparted by the supervisor in presence of site in charge and site safety officer before start of activity. 3. Identified hazards and control measures shall be explained to erection team/workmen through tool box talks every day in the morning before the start of the activity till the completion of job.4.Proper supervision, 5. On job training, 6.Eliminating the certain jobs . 7.All workmen planned for this work shall be screened for medical fitness. 8. JSA / Risk assessment shall be done well in advance by site engineer/supervisor and the same shall be reviewed & approved by Safety officer, Site in charge / Client. 9. Work permit to be obtained before starting	1	1	1	Acceptable
Deployment of tools & tackles	R	Using improper tools	Cut / burs	employees	3	3	9	yes	NA	1.Verification/ Inspection of tools as per the tools list. 2.Check for "safe for use" tag in case of power tools. 3.Eliminate the certain things like giving direct power to m/c, providing male female connection for the joints and using the m/c with proper guard , 4.Proper supervision, training and the existing measures .	2	1	2	Acceptable
Loading ,Unloading & Transportation	R	Improper floor , inexperienced and uncertified operator , defective and unfit lifting tools and tackles	Amputation / fatal / property loss / ergonomics risk	employees	4	3	12	yes	NA	1. Operation Control Procedure for Loading/Unloading. 2. Use of proper PPE. 3. Follow-up of Instruction for the safe manual handling procedure. 4. Follow-up of Instruction for the safe material handling procedure. 5. proper training of the workers . 6.Proper training of the workers , 7.Load chart to be familiarized by the erection engineer , operator and singling person, 8. Only one person shall signal . 9.Certificate of crane , tools tackles shall be available at site and slno shall be punched on the aluminum timbale .	2	1	2	Acceptable

