PTCL Group Corporate HSE & Sustainability
Management System Document

Hazard Identification, Risk Assessment and Control Process (HIRA)

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Document History:

Issue No.	Date	Reviewed by	Revision Details
00	March 06, 2020	GM Corporate HSE	First release as" Risk Assessment & inspection Procedure"
01	July 31, 2023	GVP Corporate HSE	Revised as" Risk Assessment and Environment Aspect & Impact Assessment"
02	April 10, 2025	GVP Corporate HSE Zonal Head Technology Director HSE Functions	Update as" Hazard Identification, Risk Assessment and Control Process" ISO 45001 approach is adopted and EAIA is revoked from this procedure

1. Purpose

The purpose of this Procedure is to establish a common and understanding of hazards, risks and how to control the risk. Conduction of risk assessment is systematic which means that it is repeatable, consistent and can therefore lead to confident decisions which can be checked and verified.

It shall ensure that:
- Hazards of all activities and associated company's operations are identified, analyzed; risks are assessed and controlled to "As Low as Reasonably Practicable (ALARP)" status.
- HSE risk management process is properly defined and documented to ensure periodic monitoring of risk and its traceability.

2. Scope

This procedure applies to all activities, operations, equipment, vehicles, and facilities of PTCL group, within the scope of the occupational health, safety, and environmental management system of the organization at all relevant levels within the company.

- All PTCL Group Routine (R), Non-routine (N) and Emergency (E) activities, Natural disaster, and catastrophic failures.
- All Group PTCL personnel, contractor personnel, visitors, or community and Service Providers that may interact with or be affected by any aspect of company activities.

3. Definitions

Subject	Definition
Hazard	Source, situation, or act with a potential to cause harm in terms of human injury or ill health, or combination of these.
Risk	The combination of the Likelihood of occurrence of harm and the severity of that harm.
Risk Acceptance	The decision to accept risk
Acceptable Risk	Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own.
Risk Analysis	The estimation of the risk associated with the identified hazards
Risk Assessment	A systematic process of organizing information to support a risk decision to be made within a risk management process. It consists of the identification of hazards and the analysis and evaluation of risks associated with exposure to those hazards
Risk Control Measures	Actions implementing risk management decisions, an item, procedure, or system introduced to eliminate or reduce risk.
Risk Evaluation	The comparison of the estimated risk to given risk criteria using a quantitative or qualitative scale to determine the significance of the risk
Risk Identification	The systematic use of information to identify potential sources of harm (hazards) referring to the risk question or problem description
Risk Management	The systematic application of quality management policies, procedures, and practices to the tasks of assessing, controlling, communicating, and reviewing risk
Risk Reduction	Actions taken to lessen the probability of occurrence of harm and the severity of that harm
Risk Review	Review or monitoring of output/results of the risk management process considering (if appropriate) new knowledge and experience about the risk
Severity	Estimated probable outcome of the incident. Influenced by No. & type of people affected level of energy & other factors e.g., concentration & toxicity of hazardous substances.
Likelihood	Estimated frequency of occurrence. influenced by No. & type of people exposed to hazard, how often & by the workplace conditions e.g., light, space etc.
Residual Risk:	The level of risk that remains after the existing controls that are in place and their effectiveness are considered. These controls may require verification by audit.

Intolerable Risk	A level of risk that is as high as to require significant and urgent actions to reduce its magnitude. If these risk levels cannot be reduced to ALARP or acceptable level, the project objectives and operating philosophy must be fundamentally reviewed by the management.
Incident	Work-related event(s) in which an injury or ill health regardless of severity or fatality, occurred, or could have occurred. *Note: An incident where no injury, ill health, or fatality occurs may also be referred to as a "near- miss," "near-hit," "close call" or "dangerous occurrence." An accident is an incident which has given rise to injury, ill health, or fatality.*
ALARP	As Low as Reasonably Practicable. A level of risk that cannot be reduced further without the expenditure of costs that are grossly disproportionate in relation to the benefits gained.
Risk Register	A collection of risk information that defines the risk profile of a defined Department / Division, Asset, Function or a project, investment, or activity.
Competent Person	Person with sufficient Knowledge Attributes (skills) Training Experience & knowledge of their own Limitations
TRIC	The Toolbox Talk Risk Identification Card should be regarded as a Job Safety Analysis (JSA) for conducting point-of-work risk assessments on-site.

4. HSE Requirements

4.1 HSE Policy

The management at all levels shall demonstrate, through its decisions and actions, its commitment to provide all necessary resources to achieve the defined HSE objectives; to bring all risks to a n acceptable level or as low as reasonably practicable (ALARP).

4.2 ISO 45001 Occupational Health & Safety Management System (Sub-clause 6.2.1) - Hazard identification and assessment of risks and opportunities for improvement.

The organization shall establish, implement, and maintain a process(es) for hazard identification that is ongoing and proactive, the assessment of risks, and the implementation of necessary control measures.

4.3 ISO 14001 specifications (Sub clause 4.3.1) - Environmental Management Systems

The organization shall establish and maintain procedure(s) to identify the environmental aspects of its activities, products, and services that it can control and over which it can be expected to have an influence, to determine those which, have or can have significant impacts on the environment.

6. Roles and responsibilities:

GCPO
GCPO shall be overall responsible for implementation of this procedure.
VP HSE & Sustainability
- VP HSE shall be responsible for keeping this procedure updated, communicated.
- Shall ensure that Hazard identification, Risk Assessments and control measure procedure are

prepared and disseminated.
- Ensure that a Risk Management process is defined, deployed and reviewed and that adequate resources are available.
- Shall ensure its implementation through regular HSE check, inspection, and Audits across the company.

GD/SM/ Manager Corporate HSE
- Ensure that procedure reviewed as decided and get approved from all stakeholders. Keep the updated copy on portal.
- Ensure that required awareness on procedure made to all users. Participate in Risk Assessment preparation meetings/ process.
- Shall ensure the Risk Assessment process takes places for all significant aspects which poses threat to environment from any sort of activity and operations.
- Shall provide internal training to relevant stakeholders of Risk Assessment Process.

Functional HSE/Extended HSE Team
- Ensure that required awareness and training on procedure made to all relevant stakeholders within their domain.
- Shall ensure that risk assessments of all routine and non-routine activities, and their impacts are identified, assessed, mitigated/reduced, controlled, and incorporated into Risk Register.
- Shall ensure and participate in the risk assessment Process.
- Shall ensure risk assessment process takes places for all significant aspects which poses threat.
- Shall provide internal training for risk assessment.
- Shall ensure to conduct reassessment of all risk assessed activities after a defined period in the SOP.
- Shall advise teams to use TRIC before starting task and identify additional hazards and their controls.
- Shall develop and implement HSE performance dashboards to track key safety metrics and trends

Building owners/Directors/ Project team:
- Ensure that risk assessment management process conducted, communicated, available and implemented with field teams during work. Also ensure that risk assessments management are suitable and sufficient as per defined controls.
- Shall ensure that risk assessment management process is undertaken for all significant impact activities in respective premises and associated sites.
- Shall ensure annual review of respective risk assessment along with risk Register.
- Shall be overall responsible to control/mitigate the significant risks at respective sites.
- Shall ensure to conduct risk assessments of new activities before starting/utilization.

Job/ site Supervisor/line manager:
Respective job supervisor/ line manager shall ensure that updated copy of risk assessment available with field teams. They will communicate all hazards and controls to complete team/ contractor (TBT) and take attendance. Also ensure TRIC is used as point of work risk assesment, and the staff is aware of & understand relevant risk assessments along with identified controls.

Service provider/Contractor:
It is the responsibility of the contractor/service Provider to report, conduct and comply the Risk Assessment of critical activities before commencement of work in alignment with HSE Policy, Risk management procedure, Contractor Safety Management Procedure ,RAM framework and Contractor Safety Handbook.

7. Criteria of Risk Assessment

- Risk Assessment should be suitable & sufficient –
- to be appropriate to the work & risks involved.
- identify all significant hazards & risks and accounts of people affected.
- identify & prioritize controls required.
- controls should be reasonable, should enable legislative compliance & result in the remaining risk being low.
- Risk Assessment should remain valid for a reasonable period till any change occurs.

8. Risk Assessment Team

Risk Management / Assessment Process is best undertaken on a team basis as per their competence and experience. The HSE Team can be an independent moderator and coordinator of the risk assessment process, arranging reviews of assessments. Following shall be the team members to conduct/ review risk assessment. Respective line managers shall formally engage all to conduct / review risk assessments.

- Building Owner(s)
- Functional HSE (PE, Technology, Sales)
- Job Owner/User Department
- HSE team member
- Job supervisor
- Worker's participation where possible
- Area in-charge (where work will be carried out)
- Respective contractor (If work assigned to contractor)

Always consult directly involved employees of the work area where the Risk Assessment of the activity is being undertaken!

8.1 Competency and Training of members of Risk Assessment Team

HSE department ensures before initiating the risk assessment exercise, the members must be competent to perform the risk assessment process. The member must have sufficient knowledge of:

- the area, department, or activity to be assessed.
- the risk assessment process
- an understanding of hazards and the ability to identify hazards.
- current health and safety practices
- When and how to seek specialist advice.

9. Procedure for Risk Assessment

9.1 Process – General

9.1.1 Hazards need to be identified before the risks associated with these hazards can cause harm.
9.1.2 The organization is applying the process of hazard identification and risk assessment across the full scope of work for specific projects, utilizing the process set out below, to determine the controls that are necessary to reduce the risk.
9.1.3 The results of the hazard identification and risk assessment process will enable the organization to prioritize resources for effective risk management.

10.0 Hazard Identification & Risk Assessment Method

Method of risk assessment shall follow the same basic steps and have the same basic components   as illustrated in the following figure by using ISO 45001 as reference.

10.1 Step 1 - Hazards Identification

- Hazard identification shall consider the different types of hazards in the workplace including safety, physical, health, ergonomic, chemical, and biological hazards.
- Hazard identification shall include routine and non-routine activities and shall cover the full scope of the work to be carried out by the PTCL Group. Through these steps a register of risks is generated from which a safety 'management program' can be developed.
- One of the most important aspects of risk assessment is accurately identifying the potential hazards in your workplace. For example, a good starting point is to walk around your workplace and think about any hazards. In other words, what is it about the activities, processes or substances used that could injure your employees or harm their health?

The hazards identification is carried out considering the following hazards identification checklist annexture B below are minimum but not limited to.

While conducting the hazard identification, the information regarding the hazards and the risk involved is determined from any of the following sources:

- Task analysis (make steps of activity and list down all possible hazards under each activity) & Interviewing people associated with the activity.
- Self-examination, observation, results of measurements and monitoring.
- Examination of existing management practices/procedures and using relevant checklists.
- Check manufacturers' instructions or data sheets for chemicals and equipment as they can be very helpful in explaining the hazards and putting them in their true perspective.
- Feedback and analysis from previous incidents/ accidents/ Near misses.
- Views of interested parties (if any)
- Applicable Legal and Regulatory requirements.

- Emerging risks such as psychological stress, electromagnetic exposure, and climate change-related hazards shall be included.
- Regular field inspections and data collection are integral to the hazard identification process.

10.2   Step 2 - Assess Risks- Decide Who might be harmed & how.

- Determining who is at risk is an important step in this part of the process. The hazard identification and risk assessment process must consider all persons likely to be affected and control measures should be taken to protect them.
- Who is at risk shall be recorded. Control measures shall mitigate the risk to all identified persons.
- Evaluation of risk, specifically the severity & likelihood of a hazard being realized is the key element of this step. Failure to correctly assess the magnitude of risk may lead to the implementation of inadequate controls.
- Severity is the outcome and is often referred to as the consequence. The outcome may be a minor injury or at the other end of the scale the outcome may be a fatality. The likelihood is the chance of the hazard being realized or the magnitude of risk.
- It is important to remember that only the likelihood can be affected by the implementation of control measures.
- This process is aimed at reducing the likelihood so that the level of residual risk, the risk remaining after control measures are implemented, is acceptable, often referred to as tolerable risk.
- The organization shall utilize a matrix of severity and likelihood to assist in the evaluation process the same or like the one shown below.

Once the hazard and potential incidents are identified, the risk is analyzed by determining:

a) The likelihood (L) of each consequence consulting **Table 1.**

b) The severity/consequences (S) and associated impacts/effects that can result from the potential incident consulting **Table 2**.

c) The risk rating (R), by combining the consequence severity and likelihood (R=C X L) consulting Risk Matrix Table.

Sub-steps a) to c) are described in further detail below.

a)   ***Determining likelihood*** involves estimating the likelihood of a consequence (including its associated impacts) using qualitative/quantitative method by using Below **Table 1** contains likelihood matrix that shall be used to rank likelihood.

Likelihood Table (Table 1)				
Certain (05)	**Likely (04)**	**Possible (03)**	**Unlikely (02)**	**Rare (01)**
Almost sure to occur during routine or non-activities. A monthly or more frequent occurrence would lie in this category.	A high chance of occurrence. Occurring once in six months.	Medium chance of occurrence. Occurring once in a Year.	Low chances of occurrence. Once every 1-5 year	Very low chances of occurrence.

b) Analyzing the potential consequences (and impacts/effects) involves identifying all the possible consequences and associated impacts/effects to people, the environment, or

plant/property that may be caused by the incident of interest.

The severity of consequences ranked **qualitatively/quantitatively** e.g., Negligible (01), Noticeable (02), Moderate (03) etc. using the HSE Qualitative Consequence Severity **Table 2** as shown below

Consequence Severity: Table-2				
Negligible (01)	**Noticeable (02)**	**Moderate (03)**	**Major (04)**	**Severe (05)**
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Injury and Disease				
Low level short–term subjective inconvenience/ symptoms. No measurable physical effects & medical treatment.	Objective and temporary harm like cuts/bruises and/or injuries requiring little medical treatment. No hospitalization required.	Objective but reversible disability/impairment and/or medical treatment injuries requiring hospitalization.	Moderate irreversible disability or impairment (<30%) to one or more persons.	Short- or long-term health effects leading to fatality or significant irreversible human health impairment (<30%)
Environment Effects				
No lasting effect. Low Level impacts on biological or physical environment. Limited damage to minimal area of low significance.	Minor effects or Biological or physical environment. Minor short – medium term damage to small area of limited significance.	Moderate effects on biological or physical environment but Not affecting ecosystem function. Moderate short-medium term widespread impacts (e.g., Oil spill causing impacts on shoreline).	Serious environment Effects with some impairment of ecosystem function (e.g., Displacement of a species). Relatively widespread medium long term impacts.	Very serious environmental Effects with impairment of Ecosystem function. Long term widespread effects on significant environment (e.g. Unique habitat, National Park).
Community / Government / Media / Reputation.				
Public concern restricted to local complaints. Ongoing security / attention from regulator.	Minor, adverse local public or media attention and complaints. Significant hardship from regulator. Reputation is adversely affected with a small number of sites focused people.	Attention from media and / or heightened concern by local community. Criticism by NGOs. Significant difficulties in gaining approvals. Environment credentials moderate affected.	Significant adverse national media / public / NGO attention. May lose license to operate or not gain approval. Environment management credentials are significantly tarnished.	Serious public or media outcry (international coverage). Damaging NGO campaign. License to operate threatened. Reputation severely tarnished. Share price may be affected.
Legal				
Low level legal issue. On the spot fine. Technical non-compliance. Prosecution unlikely.	Minor legal issues, non-compliances and breaches of regulation. Minor prosecution or litigation possible.	Serious breach of regulation with investigation or report to authority with prosecution and / Or moderate fine possible.	Major breach of regulation with potential major fine and / or investigation and prosecution by authority. Major litigation.	Investigation by authority with significant prosecution and fines. Very serious litigation, including class actions.
Operational Impact (Safety, Health, environment related incidents)				
Easily addressed or rectified by immediate. corrective action. No damage to equipment.	Minor or superficial damage to equipment and o r facility.	Moderate damage to equipment and or facility. .	Major damage to facility requiring significant corrective/preventative action.	Future operations as site seriously affected. Urgent corrective / remedial action.
Total Estimated Cost (Inclusive of all safety, health, and environment related costs e.g.: potential clean-up, corrective actions, fines, liabilities)				

<PKR 10,000	PKR 10,000 to 100,000	PKR 100,000 to 1 M	PKR 1M to 10 M	> PKR 10 M

c)Estimating risk involves combining the severity of the consequence resulting from the potential incident and the likelihood of that consequence **(R = L X S)** consulting Risk Matrix Table as shown below:

d) For any risk assessment, Annexure A- Risk Assessment Form in conjunction with Table 1 & 2 for risk calculations to be used. Details process for performing risk assessment is described below:

Probability/ Likelihood	Consequences/Severity				
	Negligible (01)	Noticeable (02)	Moderate (03)	Major (04)	Severe (05)
Certain/ Frequent (05)	Medium (05)	Significant (10)	**High (15)**	**High (20)**	**High (25)**
Likely (04)	Low (04)	Medium (08)	Significant (12)	**High (16)**	**High (20)**
Possible (03)	Low (03)	Medium (06)	Medium (09)	Significant (12)	**High (15)**
Unlikely (02)	Low (02)	Low (04)	Medium (06)	Medium (08)	Significant (10)
Rare (01)	Low (01)	Low (02)	Low (03)	Low (04)	Medium (05)

Note: *The Risk Matrix used in this SOP is aligned with the Etisalat Group's ERM Risk Assessment Matrix defined in Governance & Quality Management Framework Doc # PTCL/GTO/G&QA/GQMF/01/02 but for clarity below mentioned are explanation:*

- Risk Rating Low 01-04 is = RL 01-04 ERM Risk Assessment Matrix

- Risk Rating Medium & Significant 05-12 is = RL 05-12 ERM Risk Assessment Matrix

- Risk Rating High 15-25 is = RL 15-25 ERM Risk Assessment Matrix

The risk is represented using a Risk Matrix Table to plot the likelihood/consequence-severitycombination as shown in the risk matrix table above.

- The hazards with risk rating of Significant or High are considered **Intolerable** and need to be controlled. To reduce the risk to ALARP risk levels (Low Medium).

- Record HSE Risk assessment on Annexure A- Risk Assessment Form and Annexure C- Risk Registerand maintain as an on-going record of risk assessment.

- New hazards identified and risks assessed on an on-going basis are added to the Annexure A- Risk Assessment Form and Annexure C- Risk Register.

- All critical activities undertaken Risk assessment should be on hold, till all additional controls identified (if identified) have been implemented.

- Final Residual Risk value must be less than **Medium** in all cases for the risk to be acceptable.

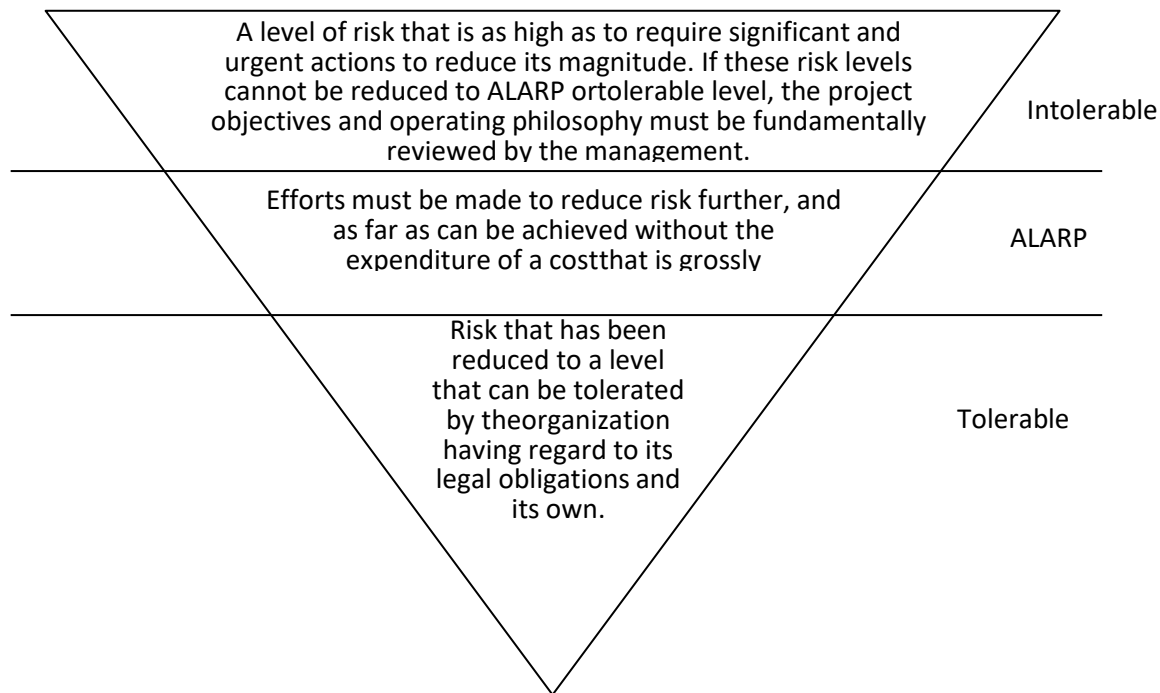**10.3 Step 3 - Decide Controls measures- Evaluate the Risks and decide on Precautions.**

- Selection of appropriate control measures is a key step in the process. Controls measure shall be realistic and achievable. The term **'reasonably practicable'** is often used to determine control measures. This basic principle is that the cost and complexity of the control measures selected should be balanced against the risk. It would not be reasonable to commit significant time and resources to control a low risk but may be necessary for an activity deemed high risk where the likelihood of a fatality is high.
- It is important that those involved in the selection of control measures are experienced and competent in the work activity being undertaken. Experienced & competent personnel should always be consulted where possible.
- Controls measures shall consider the hierarchy of risk management. This can be seen, moving from top to bottom, in the diagram below:

- Risk may be '**eliminated'** by redesigning a job sequence and removing a hazardous step.
- Risk can be **reduced** through, for example, the **'substitution'** of hazardous materials / substances for less hazardous materials / substances.
- '**Engineering Controls'** are an effective means of managing risk. Engineering controls use physical measures to separate workers from hazards. Typical examples include barriers or guarding of machinery. The use of local exhaust ventilation in a workshop is another example of engineering controls.
- **'Administrative Controls'** include the development of procedures, method statements, risk assessments, training, etc. Administrative controls can be effective as workers become more aware of hazards and more competent in carrying out their duties in a safe manner. Administrative controls may also include work scheduling. For example, reducing shift times may reduce workers' exposure to hazards.
- **'PPEs (Personal Protective Equipment's)'** is the final element in the hierarchy of risk management. PPEs should be used where no 'reasonably practicable' alternative is available. PPEs will include general personal safety equipment and RPE (Respiratory Protective Equipment).
- Most control measures for routine activities have been reviewed and required controls set out in a Risk Assessment. A copy of the Risk Register can be made available if required.
- As per good industrial practices, the standard risk management criteria by which projects and activities are

designed and operated, is that risk is As Low As Reasonably Practicable – **ALARP**. The 'ALARP' principle (see attached figure below) is used to determine acceptability of a risk.

- It is important to consider whether all the risks associated with a particular task or project, whilst not significant in themselves on a standalone basis, may combine and have an overall cumulative risk effect that may rate differently.

A level of risk that is as high as to require significant and urgent actions to reduce its magnitude. If these risk levels cannot be reduced to ALARP ortolerable level, the project objectives and operating philosophy must be fundamentally reviewed by the management.

Intolerable

Efforts must be made to reduce risk further, and as far as can be achieved without the expenditure of a costthat is grossly

ALARP

Risk that has been reduced to a level that can be tolerated by theorganization having regard to its legal obligations and its own.

Tolerable

All actions should be developed in accordance with the hierarchy of controls (Briefed Below).

Once the risk has been compared against the acceptability criteria, a decision can then be made to either:

- Accept the risk if it is ALARP and monitor and review it; or
- Consider treatment options if the risk is not acceptable to reduce it to ALARP.

This decision-making process should be consistent and repeatable. The decision on risk acceptability is one made by management based upon risk versus rewards. However, a risk that rates as "high" or "significant" using the risk matrix table, falls into the "intolerable" zone when applying the ALARP principle. Hence, treatment options need to be applied to these risks to bring them down to the ALARP range.

– Treat Risk

This is concerned with the development and implementation of specific cost-effective strategiesand action plans for increasing potential benefits and reducing potential costs.

In the context of HSE, risk control strategies include:

- Avoiding risk (where this is practicable) by deciding not to proceed with the activity likely to create risk.
- Modifying the likelihood of the event occurring, to reduce the likelihood of harm, loss, and detriment.
- Altering the consequences, to reduce the severity of harm, loss, or detriment.
- Retain the risk. After risks have been controlled, there will be residual risks that are retained. Risks can also be retained by default, e.g., when there is a failure to identify or appropriately control risks.
- Expand worker-centered risk mitigation strategies (e.g., modifications in work schedules, automation, and

work environment design improvements)

10.4 Step 4 - Record your significant Hazards & Risks and implement them.

- Make a record of your significant hazards & risks – the hazards, how people might be harmed by them and what you have in place to control the risks. Any record produced should be simple and focused on controls.
- Where the nature of your work changes fairly frequently or the workplace changes and develops (e.g., a project site), or where your workers move from site to site, your risk assessment may have to concentrate more on a broad range of risks that can be anticipated. Remember, the greater the hazard the more robust and reliable the measures to control the risk of an injury occurring will need to be.
- Implementation of the planned arrangements is the responsibility of everyone management to ensure the provision of required resources.
- Compliance with planned arrangements is the responsibility of every person involved in the activity, however, specific responsibility for identified control measures should be allocated to a member of staff present on the project.
- The Corporate HSE team will help everyone at all stages of the implementation process.

10.5 Step 5 – Monitor and Review

Monitoring and reviewing needs to be undertaken at each step in the risk management process.Monitor and review activities should include:

- Monitor changes to the strategic and organizational context.
- Monitor hazards (preferably at least annually) to determine whether any newor previously unidentified hazards exist.
- Monitoring of incidents and review of incident trends.
- Monitoring of predicted and actual impacts/effects.
- Review of impacts/effects to check accuracy of consequence severity andlikelihood ratings, review of significant risks.
- Monitor and review the effectiveness of treatment plans.
- Monitor and review the effectiveness of risk communication programs.
- Review the effectiveness of management systems in identifying and managingrisk.
- **Continuous Improvement:** It aligns with the Plan-Do-Check-Act (PDCA) cycle by promoting proactive OHS improvements.

11. Recording & Documenting the Risk Assessment

- Risk assessments shall be recorded. Documented risk assessments shall be included in planned arrangements, set out in management and executions plans etc.
- Few workplaces stay the same. Sooner or later, you will bring in new equipment, substances and procedures that could lead to new hazards. So, it makes sense to review what you are doing on an ongoing basis, look at your risk assessment again and ask yourself: Have there been any significant changes? Are there improvements you still need to make? Have your workers spotted a problem? Have you learnt anything from accidents or near misses? Make sure your risk assessment stays up to date.
- Risk assessments shall document the necessary control measures that result in an acceptable (tolerable) residual risk rating. A risk rating of 8 or below (tolerable risk), using the process set out in this document, is deemed acceptable. Identified control measures shall be implemented prior to the commencement of work.
- Where a residual risk rating of 10 or above (intolerable risk) is generated, the risk controls shall be re-evaluated / redesigned until a tolerable residual risk rating is achieved.

12. Review Frequency of Risk Assessment

Corporate HSE ensures that hazards and risk related to the activities/processes are kept current by conducting the same assessment:

- After every two year- (to update the system)
- Before change in existing activities/ processes/products/ facility/ equipment.
- Change in standard, laws & regulations.
- After Accidents/Incidents (if required)

13. Communication & Consultation of Hazards & Documented Control Measures

- The corporate HSE team and relevant team shall ensure that information regarding hazards and planned control measures is communicated. Pre-start briefings shall be carried out prior to the commencement of works. Hazard communication shall be via induction, training, awareness sessions and toolbox talks (TBT).
- Communication shall be in the understandable languages preferred by the workforce.
- Records of such instructions shall be maintained by relevant departments.
- Communication and consultation are important throughout the whole risk management process and need careful planning. The communication needs to cover both external and internal stakeholders.
- Communication and consultation involve a two-way dialogue, rather than a one- way flow of information from the decision makers to other stakeholders. Direct involvement in the process is the best form of consultation & communication.
- People exposed to risk should take part in the hazard identification process and in the development of risk treatment actions. It is important to communicate with people potentially exposed to risks so that they understand how to look for hazards in their workplace or living environment, and how to manage risks to which they may beexposed.
- Stakeholders may need to be considered in developing communication plans, in addition to the employees directly involved in the operation, including regulators, community suppliers, linemanagers, and non-government organizations.

The output from risk assessments, together with risk control action plans, can be contained in risk registers. For small projects these can be kept on an Excel spreadsheet or in a Word document; however, to maintain integrity and to ensure effective tracking and management of control actions, risk registers should be kept in a risk management information system and digitalized. Refer to Annexure C- Risk Register Template.

14. Related Documents

#	Template name	Number	Retention Period
1	Annexure A-Risk Assessment Form	COR- HSE-PRO-004- F1	5 years
2	Annexure B- Hazard Identification Checklist	COR- HSE-PRO-004- F2	5 years
3	Annexure C- Risk Register Template	COR- HSE-PRO-004- F3	5 years

				Annexure A- Risk Assessment Form					**Doc. #:** COR- HSE-PRO-004- F1

Annexure A- Risk Assessment Form — **Doc. #:** COR- HSE-PRO-004- F1

Rev. # 01

Risk Assessment Team:	Reviewed By:	Approved By:	Location/Area:	Date: _____

Activity/Process: _____

#	Hazards	Risks	Who, How	Risk Rating			Control Measures	Residual Risk			Review Date
				L	S	*RR		L	S	**RR	
1											
2											
3											
4											
5											
6											
7											
8											

*RR: Risk Rating, ****RR:** Residual Risk**, P:** Probability**, S:** Severity

Risk Assessment Process

Risk Assessment Process is a structured process where the hazards associated with each step of a job are identified, rated and control measures put into place to minimize the risk to personnel,environment, and property.

Risk Assessment Process may be based on work instructions or temporary work instructions or could build on a previously completed Risk Assessments (issue as new revision of the previous Risk Assessment.

Risk Assessment is a team process - all members of the team who will be working on a job, plus others with related experience or expertise, should be involved and should actively contribute.

1. Draw a diagram/Picture of the job to be carriedout.

2. List alternatives to the overall task. These will be used if any hazard cannot be acceptably controlled.

3. For each job step, list hazards - prompted by the Hazard Identification Checklist.

Hazard Identification Checklist

List of Energy Release Sources / Situations thatmay not be well controlled and could result in risk/ Things that could go wrong.

1.   Mechanical

   Be struck by anything - impact injury Be caught in, on or between anything

   strike against anything

   be drawn into machine

   be struck by ejected material Fluid

   Vibration

   Equipment condition (damaged/Worn)

2.   Kinetic /Vehicle

   Be struck by a vehicle (Vehicle certificate required?)

   Be struck by moving object

   Vehicle striking equipment, rollover, vehicle poor condition

   Equipment Safeguarding

3. Access

Slips, trips, and falls

Falling or moving objects

Obstruction or projection

Confined spaces (CSE Certificate required?)

High Access/ Scaffolding (Certificate required?)

4. Handling/ Lifting

Strain/ overexertion, non-standard equipment, non-certified

5. Electricity

Electrocution, ignition source, Improper earthing

Equipment condition and suitability,

Tools suited for task (insulated)

6. Chemicals/ Wastes

Toxic/ poison/ chemical burns

Irritant (e.g., insulation materials)

Sensitizing

Corrosive

Explosive/ flammable/ fire

Carcinogen

Acute (immediate) & Chronic (long term) effects

7. Fire & Explosion

Pressure – large uncontrolled release of material

Loss of pressure – extreme cold

8. Particles/ Dust/ Fumes/ Gases

Inhalation

Ingestion

Abrasion of skin or eye

9.   Radiation

   Ionizing

   Non-ionizing

   (Radiography Certificate required?)

10.   Biological

Bacterial/ Viral/ Fungal (contamination /infection)

11.   Environmental

Noise – hearing damage, poor communication

Vibration

Light

Humidity

Ventilation

Temperature – burns, dehydration, hot or Cold

Climate

Pressure/vacuum

12.   Organizational

Poor maintenance

Lack of supervision

Lack of training

Lack of information

Inadequate monitoring arrangements

Poor operator/machine interface

Nonstandard isolation

13.   The Individual

Individual not suited to work

Long hours (sufficient breaks/ rest periods?)

High work rate

Can the employee hurt a fellow employee?

Training, supervision

14.   Pollution of the Environment

Water

Air

Land

Waste/ rubbish

Fuel/ oil/ chemical spills

15.   Damage to Equipment

16.   Snakes, Scorpions, insects

Hierarchy of Control

For each hazard/ step, develop control measures - risk reduction or hazard elimination measures - following the Hierarchy of Control:

The general Hierarchy of Control Measures, to be used in order, is:

1. Elimination/ Substitution (removal of the hazard/use alternative methods)
2. Engineering Control (containment, shielding)
3. Training and Procedures (administrative controls)
4. Personal Protective Equipment (to protect the individual) In more detail, the Hierarchy of Control is as follows:

(1) Elimination/Substitution

Elimination or substitution requires a radical rethink of the job to determine if there is an entirely different way of doing it. Start by defining the goal of the job (i.e.,the result) and then explore new ways at accomplishing it. For example:

- New tools
- New materials (i.e., chemicals, etc.)
- New machinery (i.e., plant and equipment)
- New methods

(2) Engineering Controls

Engineering controls means physically modifying plants, equipment, or tools. For example:

- Improved maintenance: for example, preventive maintenance schedule to prevent failure.
- Reduction at source of noise or vibration through various known engineering controls.
- Isolating or enclosing the hazard; for example, fume cupboards, barriers, lag surfaces, machine guards, etc.
- Use of ventilation to remove fumes and dusts.
- Use of mechanical aids to minimize manual handling injuries.
- Installation of an alarm or trip system or other safety device.

(3) Administrative Controls

Administrative controls involve changing the work instruction to reduce risk by limiting.

the exposure of an employee to the

hazard. For example:

- Organize work schedules to minimize the number of employees exposed to hazards.
- Restrict employees from hazardous areas if their job does not require them to be there.
- Increase the separation between the employees and the hazard.
- Such controls should be indicated on the work instruction as caution notes adjacent to the relevant steps.

(4) Personal Protective Equipment

Personal protective equipment should be used only when other measures have not been able to protect the employee against the hazard or risk of exposure to the hazard. Where personal protective equipment is used, ensure that it fits the employee correctly; training is provided in its need and use, and that the equipment is maintained and serviced regularly. (Examples: Use of chemical resistant suite /Face shield during chemical handling)

Risk reference R-year-Risk Group-001	Date	Location /Site	Building Owner / BU	Operations	Activity	Hazard / Risk	Initial Risk	Residual Risk
R-2025-OPR-001	March 18, 2025							
R-2025-ENV-001								
R-2025-OHS-001								