



# Job Hazard Analysis Procedure

OP-PRO-00967

## 1 Purpose and Scope

To provide a process for systematically identifying all the hazards associated with each step of a job and to implement appropriate control measures in order to prevent harm to people, property or environment.

This Job Hazard Analysis (JHA) Procedure provides the mandatory requirements to support implementation and conformance with Roy Hill Integrated Management Standard – Risk Management.

This Procedure applies to all persons conducting work at Roy Hill operations, other workplaces or any area which Roy Hill has accountability.

## 2 Procedure

### 2.1 General Requirements

- The JHA shall only be valid for the duration of the job.
- The JHA should be conducted in the work area the job is to be performed but at the very least shall be reviewed by the work team at the job site.
- The JHA task leader is the facilitator of the JHA.
- All details and subheadings particular to the topic fall under this area.

### 2.2 Identifying the need for a Job Hazard Analysis

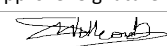
#### 2.2.1 JHA Description

A Job Hazard Analysis (JHA) is a formal, structured, pre-job hazard assessment completed by a workgroup or small team. The JHA involves the systematic examination of steps within an activity, the identification of hazards for each job step, evaluation of potential impact and the identification and assignment of controls to mitigate the risk. The Roy Hill JHA template (OP-TEM-00082) shall be used for each JHA conducted.

#### 2.2.2 When to conduct a JHA

- When there are significant deviations from the Work Instruction (WIN) / procedure(s) e.g. potential for unidentified or inadequately controlled hazards.
- When there is no required WIN / procedure addressing risk associated with the assigned job.
- When permits are required,
- For jobs or tasks involving new equipment, machinery or processes.
- For the development of WINs.
- When hazards remain inadequately controlled after the completion of a Take 5.

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- Or whenever you wish to use one to assist with the understand of the job

## 2.3 Planning a JHA

### 2.3.1 Location

Where possible, the JHA development should be conducted in the work area the job is to be performed but at the very least shall be reviewed by the work team at the job site.

### 2.3.2 Required participants

The JHA team shall include participants with knowledge and experience of the job and associated hazards being assessed.

The team selected dependant on the complexity and nature of the job shall include:

- The JHA task leader and/or Supervisor/ Coordinator of the team performing the job.
- Personnel who will be performing the job.

For large teams, a representative sample of the team may be more effective and efficient in the development of the JHA.

Where appropriate, the team may also include:

- An engineer, due to complexity of the job.
- Operations/process representatives familiar with operational interfaces and issues.
- Health and Safety Advisor(s).
- Personnel with specific expertise related to the job e.g. electricians, riggers, etc.

All personnel involved in the development of the JHA, or their delegate, shall have their names and signatures recorded on the JHA.

### 2.3.3 Information and work area review

A review of relevant information shall be conducted prior to the development of the JHA. This relevant information may include, but is not limited to:

- Scope of work (SoW).
- Drawings and schematics or plans.
- Work Instructions (WINS) of similar jobs.
- Any previous JHA
- Roy Hill HSES Management System and HSES Performance Standards, Roy Hill Procedures and guidelines as relevant.
- Manufacturer's specifications and manuals.
- HSES Risk register for the work area.
- Risk assessments and bow-ties on associated equipment, machinery and/or processes.
- Previous incidents in similar activities.

Where it is not practical to conduct a JHA in the work area where the job is to be performed, as a minimum, a tour of the work area and inspection of the equipment shall be conducted prior to writing the JHA.

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## 2.4 Conducting a JHA

### 2.4.1 Step 1: Identify the basic Job steps

This step is used to identify the basic task steps necessary to perform the job from start to finish. The task steps are those segments of the job where the work is clearly advanced after the completion of each step. The task steps shall be sequential with each step describing what is to be done to perform the job.

The following may be used to identify the basic job steps:

- The scope of work (SoW).
- Work Instruction (WIN) / Procedure for the job.
- Previous JHAs.
- JHA teams knowledge of the job.
- Manuals, training material, etc.

Once identified the basics task steps shall be recorded on the Roy Hill JHA template (OP-TEM-00082).

### 2.4.2 Step 2: Potential Hazardous Scenario - What if

In this step a comprehensive scenario is required to explain what could potentially go wrong if an uncontrolled damaging energy or hazard is introduced to the task step. The following shall be considered:

- What – consider the scope and task steps; identify any damaging energies or hazards associated with the job taking into account any equipment, tools and materials to be used, waste, etc.
- When – the time the job is to be performed, night, day, afternoon, morning, etc.
- Where – the location where the job is being performed and hazards associated with that location. These include the work area conditions such as: lighting, ventilation, cramped, at height, hot, cold, proximity to key environmental receptors (i.e. priority flora, watercourses, heritage sites, local stakeholders, etc.).
- How – how is the job to be performed, consider manual handling and ergonomic issues, fatigue.
- Look up / down / around / inside – have a thorough inspection of the work area to identify any additional damaging energies or hazards; such as potential hazards introduced by other work groups, housekeeping, overhead equipment, structures or materials.

If a current WIN exists, the identified hazards shall be reviewed. Any hazards not specified in the WIN shall be recorded in a JHA, alongside the relevant task step, and the WIN shall be attached to the JHA instead of rewriting all generic hazards and controls into the JHA.

### 2.4.3 Step 3: Control identification – Plan for Success

In this step, considering existing controls and the potential hazardous scenarios identified, further actions shall be identified to reduce the potential impact to as low as reasonably practicable (ALARP), with particular emphasis and priority placed on those hazards with the potentially personal HS impacts.

This shall be done by:

- Consulting current, relevant WINs / Procedures or JHA (if applicable) to refer to hazards and their assigned controls.
- Considering what controls are available, what controls have been put in place and if the hazard identified is adequately addressed.
- Identifying, comparing and evaluating known hazard control measures.

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- Developing agreed action plans where applicable.

Use the “Hierarchy of Control” when selecting appropriate controls from the highest level of control (Elimination) to the lowest (PPE):

- Elimination – the hazard is eliminated to avoid the associated risk.
- Substitution – the activity, process and/or material is substituted for one that is less hazardous.
- Isolate – Separate the hazard.
- Engineering – redesign the equipment, work process or automated processes to prevent interaction between the hazard and personnel and/or the environment.
- Administration – including management strategies, procedures (e.g. isolation, temporary barricading, spill response), WINs, training, inductions, signage.
- Personal Protective Equipment (PPE.) –

**Remove** - the Energy Source (Elimination/Substitution).

**Prevent** - the Release (Isolate/ Engineer).

**Protect** - People from the Release (Isolate/ Administration/ PPE).

Elimination shall be the first control method considered. Where elimination is not practicable other levels of controls are to be implemented in accordance with the hierarchy of control.

Consideration shall be given to any potential HS, environment and operational impact a proposed control may have.

Where procedures are used as a control method, they shall be understood and followed as a result of training and enforcement and all hazards and controls shall be documented.

The use of PPE as a control shall only be used to achieve compliance with exposure limits or safe working conditions in situations where higher level control options are being developed and implemented, for short duration jobs or where the use of higher level controls is disproportionate to the degree of risk and cost.

Suitable controls and actions shall be recorded on the JHA, as follows:

- Controls shall be specific and required actions clearly described.
- WIN-specified controls, indicated in the attached WIN, shall be clearly referenced alongside the relevant hazard and impact of the associated job step.
- The details of any permits identified as a requirement of the job shall be recorded on the JHA.

By re-assessing the potential impact with the identified controls / actions in place, these controls shall be evaluated for effectiveness and agreed upon by the team. Work shall not commence / continue if risks remain inadequately controlled.

## 2.4.4 Step 5: JHA approval

The JHA team shall record their name and signature on the JHA to show that they have reviewed the JHA and are confident that the JHA is of suitable quality, all hazards have been identified and documented controls are adequate.

The Supervisor/ Coordinator, shall record their name and signature on the JHA to show that they have checked and reviewed the JHA and are confident that the JHA is of suitable quality, all hazards have been identified, documented controls are predicted to be effective and that the JHA is approved for use.

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The Supervisor/ Coordinator of a JHA shall be a person approved by Roy Hill and shall base their evaluation of the effectiveness of predicted controls on the following:

- Expected outcomes of the job.
- Knowledge of the work area.
- Knowledge of the job to be performed, and
- Knowledge of other jobs being performed within the work area.

If controls are not assessed as being effective or there is still uncertainty, the job shall not commence and the JHA task leader of the job shall escalate the hazard assessment to a qualitative risk assessment of the hazard.

The Supervisor/ Coordinator shall also verify and record if the JHA team has a good understanding of the principal hazards and controls by asking and recording the team's response to the following questions.

- What can fatally injury or harm me in the activity I am completing?
- What controls are in place to prevent a fatal event from occurring?
- How do I know the controls are effective and maintained and will work when needed?

The Supervisor/ Coordinator shall then identify the level of supervision required for the job by responding to the following questions:

- What permits do I need to approve and reapprove?
- How often will I go and look at the job?

Before the final approval shall be given the Supervisor/ Coordinator needs to ascertain the required authorisation for the job. This will be done by risk ranking the job into one of the following; slight, minor or moderate as described in the Roy Hill Risk Management Procedure CO-PRO-00038.

Note – jobs that have been initially risk rank greater than a moderate i.e. major (level 4) or severe (level 5) shall not proceed. If this does happen you are required to discuss the job with the area Superintendent or Manager to seek clarification on proceeding which depending on the situation could require a more detail risk assessment completed such as a Bowtie analysis coupled with appropriate approvals i.e. GM, Head Rail, Head Port or RM.

The authorisation matrix for job approval:

Moderate (Level 3)	Superintendent
Minor (Level 2)	Coordinator/ Supervisor
Slight (Level 1)	Coordinator/ Supervisor/ JHA Task Leader * *Note – check with your line Management the approval process in your area.

## 2.5 JHA Implementation

### 2.5.1 JHA usage

Where a JHA has been conducted for a job all persons performing that job shall;

- read through,
- record their name and;

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- sign the JHA

This will serve as verification of understanding and agreement with the hazards and controls. Any additional person joining the job must do the same.

Wherever a JHA has been developed, it shall be available at all times at the location where a job is being performed, while personnel are performing the job.

If required; all associated documents such as permits, WINs shall be attached to the JHA.

## 2.5.2 JHA Change Management

If changes are identified at any time during the job (e.g. scope of work changes, work environment changes, new or developing hazards is identified, new control identified, unexpected event occurs e.g. unauthorised person entering the area, etc.) the following shall take place:

- All personnel performing the job shall be informed of the change and the JHA Task Leader shall, in discussion with the work group members, determine who is affected by the change.
- The JHA Task Leader and those affected by the change shall cease work and identify new / changed hazards, impacts and controls.
- The JHA Task Leader shall record these changes on the JHA.
- The Supervisor/ Coordinator, shall review the changes, record their name and signature on the JHA to show that they approve the changes and that the JHA is approved for use.
- All persons performing that job at the time of the change shall read through the changes, record their name and sign the JHA, as verification of awareness, understanding and agreement with the changes to the previous approved JHA, before recommencing work.

If the changes are significant to the initial JHA, it shall be rewritten to ensure it is understood. The JHA is valid for the duration of the job.

## 2.5.3 When Transferring a JHA

- The oncoming shift / work crew shall review the JHA and record their names and signatures on the JHA to show that they understand and agree to comply with the requirements of the JHA.
- The oncoming Supervisor or Coordinator shall review the table of level of supervision required and sign on to the JHA.

## 2.6 JHA Relationships

The specific relationships that trigger the requirement for a JHA are summarised as follows:

- Where the Take 5 process identifies hazards that remain inadequately controlled.
- Where the Take 5 process identifies the need for a permit unless an approved WIN is being used that has been developed from a JHA and covers all permit requirements.
- Where the Take 5 process identifies the lack of required WIN(s) / procedure(s) addressing risk associated with the job.
- Where the Take 5 process identifies significant deviations from existing WINs / procedure(s), with the potential for unidentified or inadequately controlled hazards.

Further detail on conducting a Take 5 is provided in the Roy Hill Take 5 Procedure OP-PRO-00968. The specific relationships between JHAs and risk assessments are summarised as follows:

- Where a completed JHA identify hazards that remain inadequately controlled, risk assessments shall be conducted.

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Further detail on conducting a risk assessment is documented in the Roy Hill Risk Assessment Procedure CO-PRO-00038.

The specific relationships between JHA and WINs and/or other procedures are summarised as follows:

- Where a current WIN exists and significant deviations have been identified, the WIN shall be attached to the JHA instead of rewriting all generic hazards and controls into the JHA
- For significant risk jobs and those requiring a permit, a copy of the WIN and associated JHAs, where applicable, shall be available at the job location.
- Where a JHA is required due to lack of or changes from the WIN as written, this JHA shall be available at the job location.
- Any recurring hazards, controls or significant procedural deviations, identified during the JHA process, shall be incorporated into the procedural documentation as soon as possible. These changes shall be governed by the Roy Hill Document, Record and Data Management and Control Procedure.

Further detail on the development, update and use of WINs is provided in the Roy Hill Work Instruction Procedure OP-PRO-00976.

## 2.7 JHA Document and Record Management

### 2.7.1 Record management

Completed JHAs shall be stored as a record of a hazard analysis on that particular date, task and work area. Although managed records, JHAs are not controlled documents and shall therefore not be reviewed and updated.

### 2.7.2 JHA forms and templates

Any JHA forms and/or templates developed for Roy Hill shall meet the requirements of this procedure and be approved by the Roy Hill Health and Safety Manager.

The JHA form/template shall not be altered without approval. Any continuous improvement ideas shall be referred to the Roy Hill Health and Safety Manager for change management. Hard copy forms/templates and posters shall be managed according to Roy Hill Document, Record and Data Management and Control Procedure.

### 2.7.3 Training and Competencies

All personnel who are required to perform work on any Roy Hill site or managed work area shall be trained on the requirements of conducting a JHA and the use of any associated forms/templates.

## 3 Definitions

<b>Term</b>	<b>Definition</b>
<b>ALARP (as low as reasonably practicable)</b>	As Low As Reasonably Practicable- ALARP is often used for setting a value for acceptable risk. In essence, it says that if the cost of reducing a risk outweighs the benefit, then the risk may be considered tolerable. Alternatively, ALARP is the residual risk after all reasonable controls have been implemented so that the risk is as low as reasonably practicable.
<b>Consequence</b>	Outcome or impact of an event expressed qualitatively or quantitatively.
<b>Control</b>	Any process, policy, device, practice or other action that acts to minimize negative risk or enhance positive opportunities.

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<b>Damaging Energies</b>	Any injury to people, or damage to equipment, property and or can have a negative impact on the environment/ heritage, is the result of an exchange of energy.
<b>Hazard</b>	A hazard is a situation that poses a level of threat to life, health, property, environment, heritage or community.
<b>Hazard identification</b>	Identifying hazards in order to plan for, avoid, or mitigate their impacts
<b>Impact</b>	<p>The harm that has or could occur if the controls are absent or fail.</p> <p><b>Environmental impact:</b> Any planned or unplanned event that has, or has the potential to cause pollution or environmental harm that is not consistent with Roy Hill's environmental obligations and commitments, or Environmental Standards.</p> <p><b>Equipment damage or loss impact:</b> Where there has been damage to plant, equipment or facilities either as a result of a known incident, from an unknown source or person or deliberate damage. Includes incidents of equipment damage, loss or theft.</p> <p><b>Fire:</b> Any unplanned and/or uncontrolled combustion that requires extinguishing to prevent damage. Arises in the course of, or as a result of, work activities.</p> <p><b>Heritage impact:</b> Where a heritage site has been disturbed or impacted in any way, or any activity that is not consistent with Roy Hill's Heritage obligations and commitments.</p> <p><b>Injury/Disease: Injury - Disease - Occupational health concern / illness</b> that has occurred, or has the potential to occur, due to exposure over a period of time (e.g. noise induced hearing loss, musculoskeletal damage, respiratory reaction to inhalation of fumes, unexpected OEL exceedance, etc.)</p>
	<p><b>Near miss:</b> Any situation that had the potential to cause harm but did not actually result in harm or adverse consequences. Note – these incidents can be sub-classified into their impact area (e.g. HSE)</p> <p><b>Non work related:</b> Relates to injuries that arise by accident which are not directly attributable to work activities or a specific workplace.</p> <p><b>Security impact:</b> Includes the following types of incidents: assault, breach of confidentiality, burglary, civil disorder, damage, vandalism and sabotage, malicious code, unauthorised access, and possession of alcohol, drugs, or weapons.</p>
<b>JHA task leader</b>	Person nominated by a leader/supervisor to be the contact point for a job being performed under a JHA. Generally the most senior and/or experienced person performing the job.
<b>Job</b>	A piece of work assigned to a person
<b>Job Supervisor</b>	Someone responsible for the job or task but not necessary the supervisor i.e. could be someone who the crew supervisor has nominated to be the point of contact on their behalf whilst carrying out the job.
<b>Permit</b>	Written authority for a job. Permits may be required by HSE performance standards and/or to meet legislation, e.g. Confined Space Entry Permit, Hot Works Permit, Working at Height Permit, Isolation Permits, Approvals

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<b>Risk</b>	The chance of something happening that will have an impact
<b>Risk rating</b>	The likelihood and consequence of any potential injury or harm/damage occurring.
<b>Significant risk</b>	Any occurrence that has actually resulted in or had the potential to result in outcomes classified as Significant.
<b>Supervisor</b>	Someone responsible for a crew/ team.
<b>Work instruction (WIN)</b>	A work instruction (WIN) is a written procedure outlining the preferred method of performing a job/activity, outlining potential hazards and associated controls measures to be applied
<b>Work area</b>	Part of a hierarchical structure that represents the physical location where work is conducted. The hierarchy breaks sites down further, into physical sections.

Table 1 – Definitions

## 4 References

<b>Document number</b>	<b>Title</b>
OP-TEM-00082	JHA Template
OP-PRO-00975	Work Instruction Procedure
CO-PRO-00038	Risk Assessment Procedure
OP-PRO-00968	Take 5 Procedure

Table 2 – References

## 5 Review

Reviews are to examine the appropriateness of the JHA procedure, taking into consideration corporate, system and compliance requirements and legislative changes since the last review was undertaken.

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