



MICA CREEK PROCEDURE FOR  
**RISK ASSESSMENT AND JOB SAFETY ANALYSIS**  
**MCPS-HS&E-0021**

Responsible Officer: Risk and Safety Adviser

Approved : MCPS Site Manager

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## 1. Purpose

This procedure details the methods used to perform a documented Job Safety Analysis and risk assessment for Health and Safety aspects involving people and plant interfaces.

## 2. Scope

The procedure covers all types of work performed at Mica Creek Power Station for:

- Operation
- Maintenance
- Construction

This procedure is not designed to consider specialist plant design and efficiency. This procedure can be used to identify any level of risk for any type of job.

## 3. Actions

### RESPONSIBILITIES

#### Assessment Team

The assessment team has the following responsibilities to:

- perform the various parts of the Job Safety Analysis as defined in this procedure.
- perform the Risk Assessment process as detailed in this procedure.
- ensure that a copy of the risk assessment is placed on the relevant file.
- review the Risk Assessment as required.

#### Risk and Safety Adviser

The Risk and Safety Adviser is to assist the Assessment Team with the Job Safety Analysis & Risk Assessment as per this procedure.

The Risk and Safety Adviser will also review this procedure annually or as circumstances change.

### 3.1 Establishing an Assessment Team

Calculating a Risk Assessment Outcome is always subjective. For this reason it is necessary to establish a team of people to look at the task. By doing this a medium can be established and a mutually understood result can be calculated.

It is also necessary to have the people who can provide information on the process during the Job Safety Analysis.

The team should consist of the following skills:

- The PICW for the job
- A plant expert
- A person from the work party
- Other persons who have important information (eg. Engineers, etc.)

It may be necessary to use the Risk and Safety Adviser to assist with the Job Safety Analysis and Risk Assessment depending on:

- the level of experience in Job Safety Analysis and Risk Assessment of the team members.
- the complexity of the process.
- the technical information on legislative requirements and health and safety standards the team requires.

### 3.2 Job Safety Analysis Process

When performing a Job Safety Analysis identify the following:

- (1) the tasks that are being performed on the job.
- (2) the hazard(s) and risk(s) that will be present for each task.
- (3) the control measures for each of the risks.
- (4) the person responsible for each of these control measures.

The layout of this information is detailed in Attachment 8.1.

The following information explains how to perform this part of the analysis in more detail.

### 3.2.1 The Job Tasks

List all the tasks associated with the job. Some examples of this are given in Attachment 8.2.

For complicated or lengthy processes it will be necessary to break the process into jobs and perform an analysis for each job by analysing each task for that job.

It is necessary to list all the tasks to establish which tasks are controlled or uncontrolled.

### 3.2.2 The Risks Associated with the Tasks

List all the risks or hazards associated with each task. This should be listed in the forms of energy.

Types of energies and examples are as follows:

ENERGY	EXAMPLES
Gravity	Falling objects Falls of people work done above ground height
Kinetic	Sharp objects Penetrating objects
Mechanical	Moving plant Machinery/equipment that can cut, crush or catch people Machinery/equipment which ejects flying objects
Chemical	Hazardous substances Gases Flammable materials Oxidizing agents and organic peroxides Poisonous or infectious substances Corrosives Other hazardous substances
Thermal	Extremes of cold Extremes of heat Splashes from hot or cold materials Hot working environment Cold working environment Humidity
Radiation	Sunlight X-rays Lasers Bright Light Light flashes (eg. welding)
Sound	Noisy equipment/machinery Noisy working environment
Biological	Biological matter (eg. human waste, animal waste, blood, legionella)
Electrical	Unsafe electrical equipment Wet work area Live Switchgear work Aerial Conductors
Vibration	Vibrating machinery/equipment

### 3.2.3 Identify the Control Measures

Identify what control measures are needed to ensure that the risk to the work party is reduced or controlled.

For this work it is necessary to follow the Hierarchy of Control. The Hierarchy of Control is:

- Design
- Substitution
- Redesign
- Separation
- Administration
- Personal Protective Equipment (PPE).

The preferred method is Design and the last method of control is PPE.

If more than one control method can be used the risk reduction will be more effective.

### 3.2.4 Designate Responsibility

It may be necessary for the individual(s) to be responsible for their own safety but other people may also have responsibilities to ensure that the work is done with minimal risk.

It will be a person's responsibility to ensure that the control measures are put into place.

The responsibility for each person needs to be spelt out in detail to each person. This will ensure that they know exactly what is to be done and what role they have to play.

## 3.3 Risk Assessment Calculation

This step is the most subjective step of the process and will require group consensus.

It is important to understand no risk assessment is needed if a compliance issue is being discussed. That is, if a piece of legislation states how a job is to be performed then the requirements have to be followed.

This step may not be necessary if the Job Safety Analysis is required to ensure a safe work practice has put into place or to check that a safe work procedure is effective.

The outcome can be calculated using several Risk Assessment Calculators. The calculator that is used in this procedure comes from the Advisory Standard - Plant.

This method uses a tie line.

To use the Risk Assessment Outcome calculator use the following process:

1. Establish the task that has the least effective control measure or the largest consequence if the control measure fails, eg. a task that uses PPE to control the risks or a task that will lead to a fatality if the control measure fails.
2. Take this task and establish the following information (this will require a team consensus):
  - a) Probability
  - b) Exposure

c) Possible consequences

From this information it will be possible to mark the relevant points on the calculator. The calculator is available in Attachment 8.3.

Then draw a line between the points on the probability and exposure points so that it intersects with the tie line. This will be called Line A.

Draw a second line (Line B) from the intersection of line A and the Tie Line to the point on the Possible Consequence Line. Line B should go out to the Risk Score.

This will give a score on whether the risk is acceptable or not.

This may indicate that a new method for doing the job is needed or that the control measures are satisfactory.

When you change the control measures or method for doing the job, you will change the Probability. This will decrease or increase Risk Assessment Outcome.

**3.4 Review**

This procedure will be reviewed annually or as circumstances change.

**4. Definitions**

**PICW** – Person in Charge of Work (as described in the PTW System)

**Risk Assessment** – Process for identifying hazards and level of risk and to identify the control measures that need improving.

**Job Safety Analysis (JSA)** – a process for documenting the hazards and risks posed in each step of the process. This is done task by task for each job.

**5. Reference Documentation**

Workplace Health and Safety Act and Regulation 1995  
Code of Practice - Plant

**6. Attachments**

- Attachment 8.1 - Risk Analysis Sheet
- Attachment 8.2 - Examples
- Attachment 8.3 - Risk Assessment Score Calculator

**7. Document History**

Issue Date	Nature of Changes
	Original Issue

**ATTACHMENT 8.1 - Risk Analysis Sheet**

<b>Job Task</b>	<b>Hazard/Risk</b>	<b>Risk Control Measure</b>	<b>Responsibility</b>

## ATTACHMENT 8.2 - Examples

Installing a new platform -

Job Task	Hazard/Risk	Risk Control Measure	Responsibility
Putting beam into place	Heights/Falling	Use JLG lift to access heights. Wear a fall arrest lanyard and harness attached to a solid object. Trained persons to perform work	
	Lifting - manual handling	Use a lifting devices, cranes, etc. Trained persons to perform work.	
Removal and installation of Handrails	Fall	Use barricade procedure Use fall arrest lanyard and harness secured to solid device overhead. Barricade area to prevent access - solid barriers. Trained persons.	
Removal and installation of floor sections	Fall	As above	
Throughout Job	Falling Material	Barricade area off below work zone. Use floor mats and timber sheets	

## ATTACHMENT 8.3 - Risk Assessment Outcome Calculator

Probability	Exposure	Tie Line	Possible Consequences	Risk Score
Almost Certain	Very Rare		Numerous Fatalities Catastrophe	Very High Risk
Very Likely	Rare		Multiple Fatalities Disaster	High Risk
Unusual But Possible	Infrequent Occasional		Fatality Very Serious	Substantial Risk
Remotely Possible	Frequent		Serious Injury Serious	Moderate Risk
Conceivable But Very Unlikely	Continuous		Casualty Treatment Important	
Practically Impossible			First Aid Treatment Noticeable	Risk Perhaps Acceptable

### Comments/Reasoning:

Probability:

Exposure:

Possible Consequences: