RIISAM202D
Isolate and Access Plant
Training Package

Safety Prompts

Symbols are used throughout this module to highlight specific points, particularly those that involve safety. The symbols and their meaning are shown below.

DANGER

This prompt is used when there is an immediate hazard that IS LIKELY TO result in severe personal injury or death if proper procedures are not followed.

CAUTION

This prompt is used to warn against potentially unsafe practices that COULD result in personal injury or death and/or property damage if correct procedures are not followed.

NOTE

This prompt is used when an operation, condition, or information is of sufficient importance to warrant highlighting.

ACTIVITY

An activity is a task to be done before continuing, this can be group based, one-on-one or external research.

Glossary of Terms and Acronyms

All industries have terms and acronyms that are specific to them. A list of commonly used terms and acronyms is included at the end of this training resource.

ISOLATE AND ACCESS PLANT

Contents

1. INTRODUCTION

Effective positive isolation can prevent the uncontrolled release of energy that has the potential to cause injury, illness, damage to equipment and the environment.

This training resource outlines the processes for performing isolation and de-isolation on plant and equipment in the resources and infrastructure industry.

On successful completion of this training you will be able to demonstrate how to:

- determine the required plant isolations
- isolate plant according to site procedures
- complete the site authority to work form
- de-isolate and restore plant to service.

NOTE

This training resource is a guide only. Always follow OTML procedures when performing your work.

2. ISOLATION

Isolation is the physical act undertaken to prevent the uncontrolled release of energy that may cause injury to personnel, or damage to plant and equipment or the environment. All potential sources of energy connected with the plant must be isolated. Isolation must include not only the section being worked on but also all associated systems according to the scope of work to be done.

2.1 Types of Energy

Most worksites maintain a database of energy sources that identifies and records the following information for all plant, equipment and processes:

- energy sources and locations
- approved isolation points
- approved isolation methods for each energy source.

The following table lists some common energy types, sources and potential risks. You must be aware of all the energy sources associated with the work to be done.

Energy Type	Energy Source	Potential Risk
Acoustic (Noise) and Vibration	• Machinery noise • Machinery vibration	• Loss of hearing • Disorientation/Dizziness • Whole or partial body vibration
Chemical	• Acids • Alkalis • Gases • Vapours/Mists	• Burns • Respiratory tract injury • Engulfment • Eye injuries
Electrical	• Battery banks • Capacitor banks • Electrical power supplies	• Electrical shock • Burns • Cardiac arrest
Gravitational	• Suspended loads • Falling objects/personnel	• Crush injuries • Musculoskeletal injuries
Mechanical	• Moving plant and equipment • Compressed springs	• Crush injuries • Limb entanglement
Pressure (fluids and gases)	• Hydraulic systems • Compressed air systems • High pressure water systems	• Skin/tissue penetration • Burns/Respiratory tract injury • Eye injuries
Radiation	• UV (natural) • Welding arc flash • Microwaves • Lasers	• Sunburn • ‘Arc Eye’ • Skin/tissue damage
Thermal	• Hot/cold fluids, components • Fire	• Scalds and burns • Respiratory tract injury

NOTE

The list provides examples of energy sources and is not meant to be exhaustive. If you are unsure about the potential energy sources in your work environment, talk to your supervisor before starting your task.

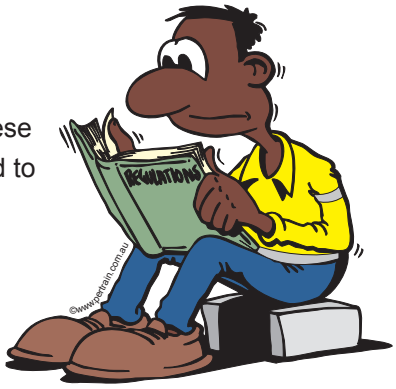
3. OPERATOR OBLIGATIONS

You have an obligation to ensure the safety and health of yourself and others and to protect the environment in which you work.

The following actions will help you to do this.

- Ensure that you are physically and mentally fit for work before starting any job.
- Comply with your organisation's Code of Conduct on how you interact with others, for example, no bullying, discrimination, unethical or unsafe behaviour.
- Do not attempt any task unless you are qualified and authorised to perform the task.
- Make sure that you have the required licences and authorisations to perform your work and that they are current.
- Select, check and use the correct personal protective equipment (PPE). Make sure that the PPE fits properly and is suitable for the task.
- Identify and report unsafe conditions, activities, incidents or near misses to your supervisor or safety representative.
- Report damaged or defective equipment for repair.
- Operate equipment within manufacturer specifications and limitations and according to site procedures.
- Use your site lock and tag system.
- Adhere to site environmental guidelines to prevent damage to the natural environment and designated heritage sites.

3.1 Compliance



During your general and site specific inductions you would have been familiarised with organisational and site policies and procedures. These have been developed in accordance with legislation and are designed to ensure that work is undertaken safely.

You must access and read all relevant documents and procedures for the task that you are doing. You must understand the documents and how they apply to your work. If there is anything that you do not understand, ask your supervisor before starting work.

The general hierarchy of compliance documentation is shown below.

GOVERNMENT	ACTS OF PARLIAMENT (ACTS)	Written laws passed by government to set out the general obligations of employers and employees. **EXAMPLE: PNG Mining (Safety) Act 1977**
	REGULATIONS	Lawful requirements that provide additional details about how to comply with the Acts. **EXAMPLE: PNG Mining (Safety) Regulations**
INDUSTRY	CODES OF PRACTICE	Developed by industry to provide practical guidance for complying with Acts and Regulations. **EXAMPLE: Model Codes of Practice - Hazardous Manual Tasks (Safe Work Australia)**
	STANDARDS (National and International)	Documents that provide practical guidelines, which when followed will ensure that a minimum quality benchmark standard is achieved for a product, service or process. **EXAMPLE: ISO 31000 Risk Management Standard**
ORGANISATION	MANAGEMENT SYSTEMS	Developed by management to comply with legislation. Management systems provide overarching governance for all site activities including safety, human resources, finances, environment and community engagement. **EXAMPLE: Code of Conduct, Environmental Management Plan**
	POLICIES	Broad statements of the overall intent and direction of a specific activity or interrelated group of activities. Policies define roles and responsibilities. **EXAMPLE: Safety and Occupational Health Policy**
	PROCEDURES and WORK INSTRUCTIONS	Easy to understand, step-by-step instructions for carrying our tasks safely and in an environmentally sustainable way. **EXAMPLE: Emergency Response Procedure**
EXTERNAL	EQUIPMENT SPECIFIC DOCUMENTS	Equipment manufacturer guidelines / manuals and specifications provide detailed information on the capabilities and limitations of equipment to assist with selection of equipment suitable for use and conditions. **EXAMPLE: Maintenance Manual, User Guide, Parts Catalogue.**

ACTIVITY

With the help of your trainer, obtain compliance documentation that applies to risk management. Discuss how these documents apply to your work task.

3.1.1 Environmental Issues

An environmental management plan must be prepared for all sites. The purpose of the plan is to minimise the environmental impact of operations. When isolating and accessing plant, you must be aware of procedures and practices for:

- dust prevention and minimisation
- control of fumes including exhaust gases and smoke
- water quality control
- waste management
- handling of dangerous substances and chemicals.

Check that the proper environmental control measures are in place. If you find any damaged or missing controls, report them to your supervisor before work starts.

During the task environmental conditions may change, for example lighting may deteriorate or it might storm. This can cause new hazards to emerge. If conditions change reassess the situation by doing a hazard identification and risk assessment using your site risk management tools. You may need to adjust your work task and/or implement new controls. All relevant personnel must be informed of any changes. Follow the site procedures to confirm the changes and ensure that everyone is informed.

4. PLAN AND PREPARE FOR OPERATIONS

Prepare for operations by:

- Obtaining all relevant information
- Identifying, recording and confirming the plant to be isolated and the work to be carried out
- Performing a complete hazard identification and risk analysis
- Ensuring all required authorisations are in place before the work begins.

4.1 Obtain Relevant Information

Before starting a task, make sure that you have all the necessary information and resources to do your work safely and efficiently. You must obtain and follow the site procedures to ensure that your work complies with the task requirements.

Information specific to your task will be discussed during the shift briefing and handover from the previous operator (if applicable). Briefings and handovers are conducted according to site policy. At the end of the briefing your should have a good understanding of the required task and the role that you will play in completing the task.

This may include:

- the scope of work
- the time schedule
- how the task fits in with other work on site
- quality and quantity performance indicators
- resources (including manpower, tools, equipment and PPE, and how to access them)
- communication methods to be used
- any standard work procedures
- authorisations and licenses required
- identified hazards and required controls.

4.1.1 Interpret information

Once all relevant information has been obtained, it must be interpreted. This should be done at the work site, if possible. Compare what you see on site with the information that you have been given. If you find a variation between the site conditions and the documentation you received, talk to your supervisor.

NOTE

It is your responsibility to make sure you access, understand and apply all relevant procedures and instructions throughout the task. If you do not think that you have all the required information, or there is something that you do not understand, talk to your supervisor before starting work.

4.2 Identify, Record and Confirm Plant to be Isolated and Work to be Done

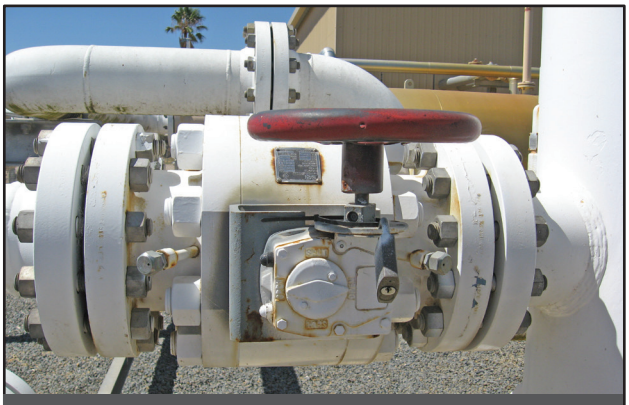
Work with other operators to ensure that isolation and access to plant is done safely and with minimum disruption to work processes. Prepare for isolation by:

- identifying the plant on which you will be working
- identifying and confirming the work requirements
- coordinating the isolation with other work area operators
- completing an isolation sheet.

4.2.1 Identify Plant to be Isolated

As part of the preparation for work, identify and confirm the plant item on which you will be working and verify the location with the relevant personnel.

- Discuss the planned work with the plant operator if appropriate.
- Inspect the plant and the work site to assist with planning the job.
- Identify the plant status and note the requirements for any change of status before or during isolation.
- Apply diagnostic techniques if required to identify any problems.



Determine the Isolations Required

The item may have unique identification information (for example an ID number) that distinguishes the plant from all other similar items. Depending on your site procedures, you may need to access one or more of the following sources of information to identify the plant correctly:

- company asset catalogue
- work site component inventory
- schematics, diagrams and drawings
- manufacturer and/or operator manuals
- plant operator.

4.2.2 Confirm Work Requirements

Identify the work requirements from the information you have been given. Check the work order or work plan to ensure that you have a clear understanding of the task. For example do you know the:

- plant location and identification
- plant status
- operating parameters
- equipment specifications.

Consult the relevant documents including:

- work instructions
- defect reports
- diagrams, plans and schematics
- Job Safety and Environment Analysis (JSA) and/or work procedure
- ATW conditions, limitations and scope of work
- manufacturer/supplier manuals and instructions.

During the planning process, ensure that the diagrams, schematics, instructions and information are current and accurately represent the plant or process. Assess the possibility of back feeds, reverse flows and interactions with adjacent plant. Coordinate the isolation task with other operators in the area to resolve potential conflicts with ATWs that may be in place and other work that is in progress.

4.2.3 Coordinate Isolation with Other Operators

Once you understand the work requirements talk to your co-workers and any other operators who may be impacted by the work, including personnel working near the isolation. Make sure that everyone is aware of the work plan and how it will affect them. Clarify vague points and agree on how any changes will be implemented. Confirm this with your supervisor and work team.

Remember to communicate clearly and concisely. Resolve coordination requirements and any other issues before starting work and check regularly throughout the task, in case conditions change.

Actively listen, ask questions and give/seek feedback to make sure that there is a clear understanding between all parties, including:

- control centre/base camp
- supervisor or other person requesting the work
- person in charge of work
- contractors
- work party
- plant operators
- other operators.

NOTE

It is important to resolve coordination requirements with others at the site before starting work and throughout the task.

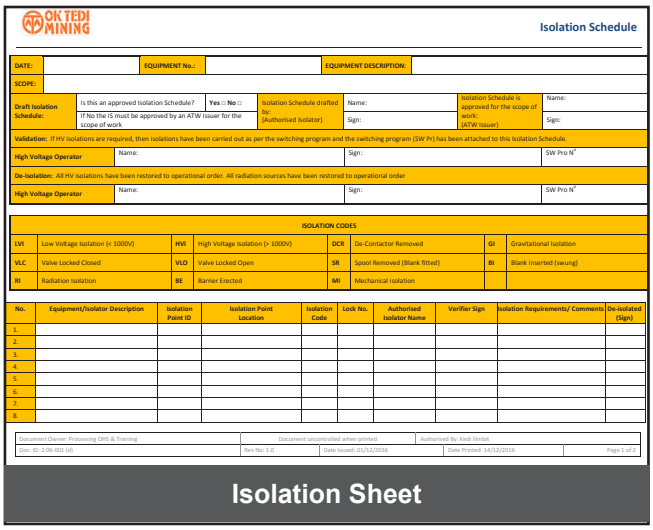
4.2.4 Complete Isolation Sheet

An isolation sheet is prepared during the planning process and lists the required isolations in the correct sequence. Requests for isolation must be documented so that the relevant authorised person(s) can confirm the extent of the work and boundaries of the isolations.

Preparing the Isolation Sheet

If you are required to prepare the isolation sheet, and you are authorised to do so, complete the details according to the site requirements.

- Access and review a standard isolation sheet or a previously used isolation sheet from your site.
- Using this as a guide:
  - inspect the plant
  - examine plant drawings
  - access and interpret all relevant information
  - consult with personnel with expertise in that plant area
  - prepare the isolation sheet in line with site procedures.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Isolation Schedule

DATE:		EQUIPMENT No.:		EQUIPMENT DESCRIPTION:	
SCOPE:					
Draft Isolation Schedule:	Is this an approved Isolation Schedule? Yes ☐ No ☐ If No the IS must be approved by an ATW issuer for the scope of work	Isolation Schedule drafted by: (Authorised Isolator)	Name: Sign:	Isolation Schedule is approved for the scope of work: (ATW Issuer)	Name: Sign:
Validation: If HV isolations are required, then isolations have been carried out as per the switching program and the switching program (SW Pr) has been attached to this Isolation Schedule.					
High Voltage Operator	Name:		Sign:		SW Pro N°
De-Isolation: All HV isolations have been restored to operational order. All radiation sources have been restored to operational order					
High Voltage Operator	Name:		Sign:		SW Pro N°

ISOLATION CODES							
LVI	Low Voltage Isolation (< 1000V)	HVI	High Voltage Isolation (> 1000V)	DCR	De-Contactor Removed	GI	Gravitational Isolation
VLC	Valve Locked Closed	VLO	Valve Locked Open	SR	Spool Removed (Blank fitted)	BI	Blank Inserted (swung)
RI	Radiation Isolation	BE	Barrier Erected	MI	Mechanical Isolation		

No.	Equipment/Isolator Description	Isolation Point ID	Isolation Point Location	Isolation Code	Lock No.	Authorised Isolator Name	Verifier Sign	Isolation Requirements/ Comments	De-isolated (Sign)
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									

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Isolation Sheet

Preparation of an isolation sheet will typically include the following steps.

1. Write a brief summary of the location and description of the plant or equipment component.
2. Detail the isolation action required (for example, close the valve, turn off the switch, open an electrical isolator, remove a fuse, etc).
3. Detail the restoration steps required.

NOTE

The restoration process may not necessarily be the reverse of the isolation sequence.

4. Write and sign your name and add the date and time to indicate that you have prepared the sheet to enable safe work.
5. Request a second authorised person to check and confirm your draft isolation sheet. The second person will sign the sheet to verify the procedure.

Using the Isolation Sheet

When the isolation and access procedure has been authorised, use the isolation sheet to perform the work.

1. Indicate the lock or tag number assigned to each isolation step.
2. Initial in the relevant column when the step is complete.
3. Ensure that the isolations are confirmed by a second person as required by site procedures.

NOTE

Some sites will use the isolation sheet during the de-isolation process as well.

4.3 Identify Hazards and Control Risks

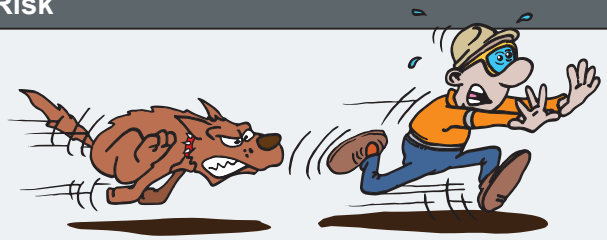
Hazards must be identified and the associated risks controlled to avoid an incident or emergency.

Hazard

A hazard is a source of potential harm or a situation with the potential to cause loss to life, health, property or the environment.

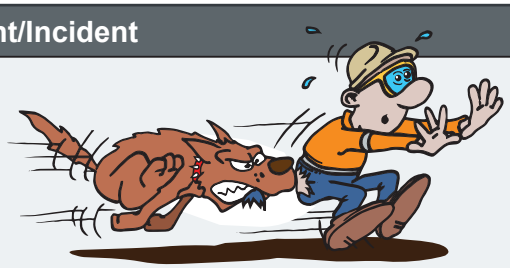
Risk

The risk is the chance of something happening that will have an impact on OTML, site or personal objectives.



Unwanted Event/Incident

A potential situation or condition where a hazard is released with unexpected or unwanted results.



Control

A control is any measure or action that modifies risk.

The purpose of the control is to eliminate the risk completely, or reduce the likelihood and/or consequence to So Far as Reasonably Practicable (SFARP).

Conduct a Take 5 before starting work, especially if:

- the task is unfamiliar to you
- you are unsure that your work can be carried out safely
- the task is potentially hazardous
- the task is potentially a high-risk activity.

Hazards may include, but are not limited to:

- power lines
- underground services
- structures
- other equipment/vehicles/people
- dangerous material
- formation/earthworks/batters
- environmental conditions, such as weather, temperature, dust and water.

Apply the Hierarchy of Controls to select the most effective risk controls. With regard to isolating and accessing plant, these may include:

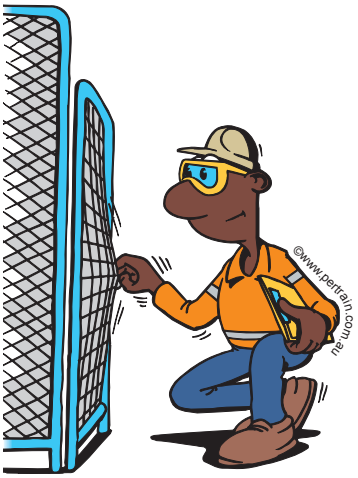
MOST EFFECTIVE

LEAST EFFECTIVE

Control	Example
Elimination	• Isolate the energy source to eliminate the risk when working on plant.
Substitution	• Use an automated process to repair plant components. • Substitute a non-flammable materials for a flammable ones.
Isolation	• Create a safe work area using barriers to separate unauthorised personnel from the isolated plant.
Engineering	• Modify the plant by adding machine guards.
Administration	• Apply site procedures. • Do a JSA. • Make sure you are trained and authorised to conduct isolations.
PPE	• Select and use appropriate equipment for isolation procedures such as: - insulated gloves - rubber mats.

Elimination and Substitution are not always possible. Usually a combination of less effective controls, such as the ones following, will need to be implemented. The aim of any risk management process is to reduce the risk to as low as reasonably practicable (ALARP).

4.3.1 Isolation: Safe Work Area



Establish and maintain a safe working area around the plant to be isolated and accessed.

Maintain a good standard of housekeeping to keep the area clean and free of objects that can create a hazard, such as:

- tools and equipment that can cause a trip hazard
- hazardous chemicals that can cause injury or illness
- materials that may ignite.

Create an exclusion zone to prevent unauthorised access during the isolation. The exclusion zone may consist of:

- temporary barricades or fences
- witches hats
- tape
- warning signs.

Identify the requirements for signage and barricades from your work procedures, JSA, ATW and work area inspections. After obtaining the required materials, check that they are in good condition and are located according to the work plan.

4.3.2 Administration: Take 5 / Job Safety Analysis (JSA)

The Take 5 tool requires you to:

- Stop work
- Think about the task you are about to do
- Identify the hazards by asking yourself a series of questions
- Plan how you can control the hazards
- Proceed with the task when you are satisfied that it can be done safely.

If you are unsure about any part of the task, **STOP** and talk to your supervisor and work team. You may need to do a more formal risk assessment, such as a JSA, or the task may need to be changed or undertaken by someone else who is trained and authorised to do it.

A Job Safety Analysis (JSA) is a task-based risk assessment. It is completed by two or more persons who identify the hazards and evaluate risk controls for each step of a task. Do a JSA if:

- You answer 'No' to a Take 5 question
- A procedure is not available
- The task involves a number of people
- Conditions have changed and new hazards may exist.

There are six basic steps to doing a JSA.

Every person who takes part in the JSA must read and understand the information before signing the JSA form and commencing work.

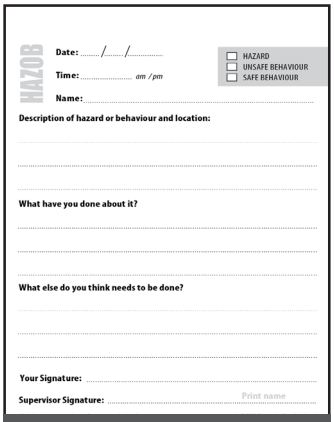
NOTE

If you do not understand, or disagree with the contents of a JSA, and do not feel the task is safe to proceed, talk to your supervisor.

A JSA should only be used once. It needs to be reviewed before carrying out the same task again as the hazards may have changed. An old JSA can be used as the basis for a new one. If you are doing the same JSA repeatedly, and there is little variation each time, then you should suggest the JSA be used to develop a site procedure.

4.3.3 Administration: Hazard Report

A hazard report provides a means of communicating information about identified and uncontrolled hazard/s to your supervisor and management. The purpose of reporting the hazard is not to lay blame on anyone, but to prevent an unsafe condition or behaviour from causing an incident or an emergency. By identifying the hazard and reporting it, either verbally or in writing according to site procedures, controls can be put in place to reduce or eliminate the risk.


HAZOB

Date: ..../..../.....

Time: ..... am /pm

HAZARD
UNSAFE BEHAVIOUR
SAFE BEHAVIOUR

Name: .....

Description of hazard or behaviour and location:

What have you done about it?

What else do you think needs to be done?

Your Signature: .....

Supervisor Signature: ..... Print name

Typical Hazard ID Form

4.3.4 Administration: Procedures and Work Instructions

All sites will have standard work procedures for common task. These procedures are designed to facilitate safe and efficient work. Always follow your site procedures which may include boarding and disembarking procedures, procedures for clearing blocked chutes and spills, procedures covering moving parts, working with hot machinery and isolating and accessing plant.

4.3.5 Administration: Training and Authorisation

Only trained and authorised isolators are permitted to isolate plant. An authorised isolator is someone who has been trained, assessed as competent, authorised and appointed to perform specific isolations.

Different situations require different levels of authorisation. The table below describes typical authorisation levels and roles. Most sites will keep a register of Authorised Isolators.

Authorisation Level	Role
Level 1 Authorised Isolator	Can perform Level 1 isolations under the following circumstances: • The isolation is performed under a JSA or standard work procedure. • No more than five people are working on the item and will be required to attach their Personal Danger Tags and Personal Locks to the isolation points. • There are no more than five isolation points on the item • The work does not require the isolation of a high voltage electrical energy source • All personnel hold a minimum qualification of Tag Holder • The geographical location of the isolation points does not adversely affect the safe management of the work or impede productivity.

Authorisation Level	Role
Level 2 Authorised Isolator NOTE: The Authorised Isolator can not be both the ATW Issuer and ATW Acceptor	Can perform Level 2 isolations where: • The isolation is performed under an Authorisation to Work (ATW) and JSA or procedure • There are more than five people required to attach their Personal Danger Tags and Locks to each isolation device • There are more than five isolation points • The work requires the isolation of a high voltage electrical energy source • The location of the isolation points may adversely affect the safe management of the work or impede productivity.
Authorised HV Isolator	Can perform high voltage electrical isolations.
Authorised Radiation Safety Officer (RSO)	Can perform isolation of a radiation source.
Independent Verifier of Isolations	A Level 2 Authorised Isolator, who is not the isolator, must verify all level 2 isolations. The verifier can only verify isolations that they have been trained, assessed as competent and authorised to verify.
Tag Holder	Any person who has been trained, assessed as competent and authorised to perform work under an ATW, but is not authorised to perform the specific isolations for the task being done, or to fulfil the role of ATW Issuer or ATW Acceptor for the task. If a person who is not trained and authorised as a Tag Holder is involved in the task, a Level 2 Isolation must be done.

4.3.6 Personal Protective Equipment (PPE)

Selection and types of PPE are regulated under industry Standards and detailed in site procedures. Select and wear PPE appropriate to the site and task being performed. To isolate and access plant, PPE may include:

- fire resistant clothing
- high voltage isolation gloves for high voltage isolations
- non-conductive footwear and using non-conductive platforms or rubber mats when isolating electrical energy.

Talk to your supervisor if you are unsure what PPE is required.

Ensure that you have been trained in the correct fitment and use of PPE before conducting any task. Check that the PPE is clean and in good condition before it is used. Clean the PPE that you have used on the job, and store it in the designated area. Tag out damaged PPE, and have consumable PPE stocks, such as dust masks and ear plugs, replenished as necessary.

5. AUTHORITY TO WORK

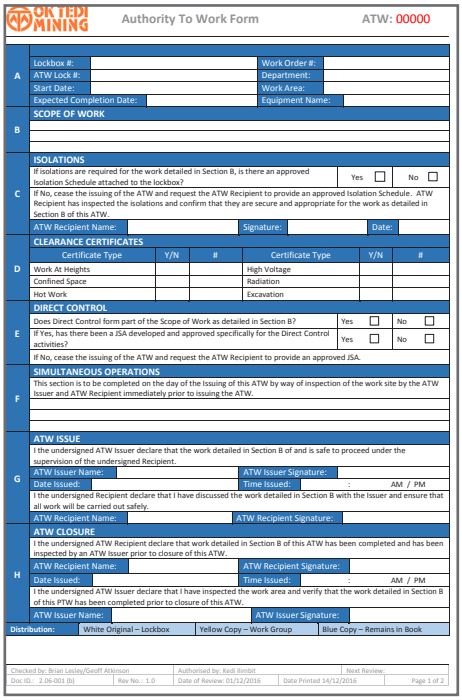
Plant isolation and access is usually conducted under an Authority to Work (ATW). The ATW System is a planning tool and control system designed to manage work safely and effectively. The purpose of the ATW System is to:

- protect people, environment and plant facilities during work
- coordinate work with other tasks, production operations and personnel
- ensure that work precautions, including isolations and other controls, are implemented.

A typical ATW procedure involves the following steps.

1. Risk assessment
2. ATW Application
3. Apply controls including isolations
4. ATW issue
5. Work commences under ATW conditions
6. Work completed and site cleared
7. ATW surrendered to authorised person
8. Removal of controls including isolations
9. Confirmation of job completion
10. ATW closure.

All persons involved with the ATW must sign on and off the form.



Authority To Work Form — ATW: 00000

A	Lockbox #:		Work Order #:		
	ATW Lock #:		Department:		
	Start Date:		Work Area:		
	Expected Completion Date:		Equipment Name:		
B	SCOPE OF WORK				
C	ISOLATIONS				
	If isolations are required for the work detailed in Section B, is there an approved Isolation Schedule attached to the lockbox?	Yes ☐	No ☐		
	If No, cease the issuing of the ATW and request the ATW Recipient to provide an approved Isolation Schedule. ATW Recipient has inspected the isolations and confirm that they are secure and appropriate for the work as detailed in Section B of this ATW.				
	ATW Recipient Name:		Signature:		Date:
D	CLEARANCE CERTIFICATES				
	Certificate Type	Y/N	#	Certificate Type	Y/N #
	Work At Heights			High Voltage	
	Confined Space			Radiation	
	Hot Work			Excavation	
E	DIRECT CONTROL				
	Does Direct Control form part of the Scope of Work as detailed in Section B?	Yes ☐	No ☐		
	If Yes, has there been a JSA developed and approved specifically for the Direct Control activities?	Yes ☐	No ☐		
	If No, cease the issuing of the ATW and request the ATW Recipient to provide an approved JSA.				
F	SIMULTANEOUS OPERATIONS				
	This section is to be completed on the day of the Issuing of this ATW by way of inspection of the work site by the ATW Issuer and ATW Recipient immediately prior to issuing the ATW.				
G	ATW ISSUE				
	I the undersigned ATW Issuer declare that the work detailed in Section B of and is safe to proceed under the supervision of the undersigned Recipient.				
	ATW Issuer Name:		ATW Issuer Signature:		
	Date Issued:		Time Issued:	:	AM / PM
	I the undersigned Recipient declare that I have discussed the work detailed in Section B with the Issuer and ensure that all work will be carried out safely.				
	ATW Recipient Name:		ATW Recipient Signature:		
H	ATW CLOSURE				
	I the undersigned ATW Recipient declare that work detailed in Section B of this ATW has been completed and has been inspected by an ATW Issuer prior to closure of this ATW.				
	ATW Recipient Name:		ATW Recipient Signature:		
	Date Issued:		Time Issued:	:	AM / PM
	I the undersigned ATW Issuer declare that I have inspected the work area and verify that the work detailed in Section B of this PTW has been completed prior to closure of this ATW.				
	ATW Issuer Name:		ATW Issuer Signature:		
Distribution:	White Original – Lockbox	Yellow Copy – Work Group	Blue Copy – Remains in Book		

Checked by: Brian Lasley/Geoff Atkinson | Authorised by: Kedi Bimbit | Next Review:
Doc ID:: 2.06-001 (b) | Rev No.: 1.0 | Date of Review: 01/12/2016 | Date Printed 14/12/2016 | Page 1 of 2

NOTE

ATWs must be signed and authorised by authorised personnel.

5.1 Requesting an ATW

If you are authorised to request an ATW follow your site procedures, which may include:

- liaising with your supervisor or the person authorised to issue ATWs
- confirming any operational requirements including plant availability
- supplying all required information, including risk assessments or JSA as appropriate
- submitting the application (written or verbal) to the relevant person allowing sufficient time for the ATW to be prepared.

The person authorised to issue ATWs will review the application and the ATW holder will be informed of the date and time when the job can start and the time period scheduled for the work.

NOTE

A request for an ATW is **not** an authority to proceed. Work must not commence until ATW and any associated clearances have been obtained and issued.

5.2 ATW Issue

Once the ATW has been issued, you should:

- confirm that the ATW is accurate and complete
- discuss any concerns relating to the hazards and controls with the ATW issuer or holder
- confirm your understanding of the job task, limits and requirements
- sign and date the ATW if you agree with the contents.

Each person working under the ATW must read and sign the ATW before starting work.

The ATW issuer will then sign on to issue the ATW, adding the date and time, and will place the ATW in the required location (e.g. board or control room).

5.3 ATW Information

ATWs vary across industries and work sites. A typical ATW contains the following information.

Information	Explanation
Applicant Details	• Name and contact details of ATW holder, usually the person in charge of the work
Duration of ATW	• Expected schedule and timeframe for the work
Work Description	• The plant ID number (if available) • Precise location of the plant requiring work • The scope of work (no work may take place outside the specified scope)
Hazard Analysis	• Lists all the hazards that may be encountered
Precautions	• Lists all the controls to be applied
Isolations	• List of required isolations or isolation sheet attached
ATW Holder Acknowledgement	• The ATW holder signs and dates the ATW to acknowledge the conditions when the ATW is issued
ATW Issuer Approval	• The authorised ATW issuer signs and dates when the conditions of the ATW have been articulated to the ATW holder and the ATW is issued.
Work Completed	• The ATW holder and ATW issuer both sign and date the ATW when the work has been completed and the ATW is surrendered.

6. ISOLATION EQUIPMENT

A wide range of devices is available for locking out energy sources and other hazards that could pose a risk to people working on plant. These include switches with a built-in lock, lockouts for circuit breakers, fuses, and all types of valves. Isolation devices also include chains, clamps, caps, scissors and safety lockout jaws (hasps) that accommodate a number of padlocks. The colour and format of isolation locks, tags and devices may vary from site to site.

Safety Lockout Jaws

NOTE

Make sure that you are familiar with the isolation equipment used at your site. If you do not know where to access isolation equipment or how to use it, stop work and talk to your supervisor.

The following are typical examples of isolation equipment that may be used.

6.1 Isolation Locks

Isolation and safety locks are used to secure plant and identify the purpose of each locked point. The locks are manufactured in sets and are usually colour-coded to denote function. Various levels of personnel have different key-holder access depending on their authorisation.

A typical system of isolation locks and keys may include:

- a safety lock
- a control lock
- multiple personal locks.

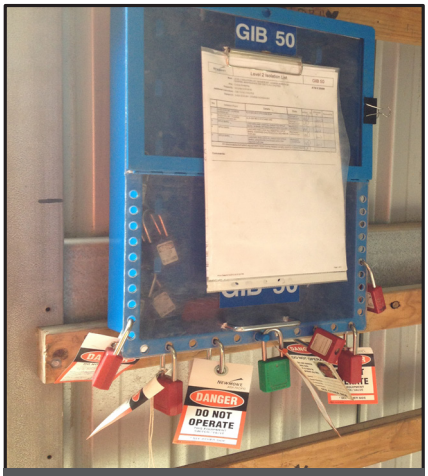
6.1.1 Safety Lock

A Safety Lock, sometimes called an Isolation Lock, is used to physically lock the isolation points on plant and equipment into the safe position.

The authorised isolator attaches the Safety Lock and a Danger Tag to the isolation point to inform personnel that the plant is being worked on and must not be operated.

Safety Locks are usually coloured red and may form part of a series of locks that can be opened by authorised isolators with a single key. The key is held in a lock box or isolation key rack in the plant control room for the duration of the isolation.

If multiple people will be working on the plant, they will attach their Personal Lock and Tag to the lock box or key rack.



Typical Isolation Lock Box

6.1.2 Control Lock

Some sites use a Control Lock to secure the Safety/Isolation Key within a lock box or isolation key rack. The Control Lock is a different colour from the Safety Lock and the key is held by the person authorised to operate and maintain the lock box or key rack. The function of this lock is to restrict access to the Safety Keys during the isolation period.

Typical Control Lock

6.1.3 Personal Lock

A Personal Lock may be the property of the person working on the job, or the site may provide Personal Locks for each job. Personal Locks may be attached to a lockout hasp attached directly to the isolation points, but more commonly they are either fastened to the authorisation board (or similar device) or the lock box/key rack. The Personal Lock is used with a Personal Danger Tag to advise who is working on the plant.

Before attaching a Personal Danger Tag and Lock, each person must:

- read all ATWs and JSAs relating to the work
- make sure they understand the task and agree with the conditions and controls that are in place
- sign onto the ATW or JSA
- satisfy themselves that the isolation is effective and the work is safe to do.

Each person must remove their own Personal Danger Tag and Personal Lock when the job is finished or suspended, and at the end of shift or when they are no longer working on the plant.

If a person is unable to remove their tag and lock, the site manager will supervise the removal of the tag and lock, or authorise its removal by a competent person, after confirming the situation.

6.2 Tags

Tags provide warning and information to persons involved in plant isolation, access, inspection and testing. Tags alone are not an effective form of isolation. They only act as a means of supplying information. Tags commonly used include:

- Danger Tag
- Test Tag
- Control Point Tag
- Out of Service Tag.

CAUTION

You must use the appropriate tag for the purpose, for example do not use an Out of Service Tag in place of a Personal Danger Tag.

6.2.1 General Rules for Locks and Tags

- Do not start or operate plant or equipment that has a Lock and Tag attached.
- Fasten tags securely.
- Ensure that interlocking equipment is also isolated.
- If you can not find the approved isolation point, notify your supervisor.
- Once tags have been used they must be destroyed, unless they are designed to be reused.
- Tags alone are not an effective form of isolation. They are only to be used as a means of supplying information.

6.2.2 Danger Tag

A Danger Tag must be fixed with a Safety Lock at each isolation point to identify the person working on the plant and the reason for the isolation.

CAUTION

If you identify an unattached danger tag, notify the plant control room or your supervisor immediately.

6.2.3 Test Tag

A Test Tag is fixed to isolation points for the purpose of running a test or introducing an energy source. The tag is hung and removed only by the person authorised to run the test. The tag must be filled out with all required information including the ATW number (if applicable) and the reason for the isolation. The isolation point must not be interfered with or the plant operated unless authorised by the person performing the test and the authorised isolator.

6.2.4 Control Point Tag

A Control Point Tag may be attached to various control point(s) for specific purposes. For example the tag may identify an entry point or a ventilation opening in a confined space that must be kept in the open position for the duration of the work. The ATW holder or person in charge of the work must place the tag and associated lock and remove it when the task is complete.

6.2.5 Out of Service Tag

An Out of Service Tag indicates that a particular item of plant or equipment is unserviceable and must not be used. The tag can be attached to non-powered equipment such as a ladder. When used for powered equipment, the tag should be attached to the main control point.

Any competent person with knowledge of the equipment can place the Out of Service Tag but it can only be removed by an authorised person on completion of repairs. Out of Service Tags must not be removed until the equipment is safe and its correct operation will not cause injury to personnel or damage to plant or equipment.

Out of Service Tag and Danger Tag

6.2.6 Information Tags

Information Tags convey information to operators. They do not necessarily mean that the plant or equipment can not be used, but signify that personnel must not operate the equipment until they have read, understood and complied with the advice written on the tag. Information tags must be attached in locations where they will be readily seen, for example ignition switch or starter button.

When the reason for the tag no longer exists it can be removed by the person who attached it or any authorised person, for example maintenance personnel.

6.3 Lock Out Devices

A lock out device is a fabricated or manufactured device used to hold an energy isolating mechanism in a safe position and prevent the equipment or plant being energised. The lock out device can be locked to prevent a change of status.

Example of a Lock Out Device

Lock out devices include:

- pins and slings
- wheel chocks
- energy isolation switches
- spades, blanks and isolation valves.

When placing lockout devices make sure that:

- the device does not impede access or operation of components not requiring isolation
- the device can not be tampered with or made inoperative by unauthorised persons
- the lock out device can not be affected by dirt, water, dust, wildlife or extreme temperatures that may cause it to malfunction
- you **manually** check power-operated stop valves are locked off in the closed position. Do not rely on computer controlled shut–off.

6.4 Barriers and Barricades

Barriers and barricades are put in place to keep personnel separated from hazards such as moving components. They also keep unauthorised personnel away from plant during the period of isolation.

Barriers include:

- machine guards
- permanent or temporary fences
- witches hats and bollards
- danger, caution and warning tape.

Do not tamper with or remove a barrier unless you are fully qualified and authorised to do so. Barricades must have an information tag or warning sign attached to identify the purpose of the barricade, the barricade owner and the duration that the barricade will be in place.

6.5 Signs

Warning signs inform all persons of the presence of a hazard. Any person entering the area must use the appropriate controls to reduce the risk. Warning signs should include details of the hazard and a contact number for more information.

Danger signs inform unauthorised persons that they may be at risk of severe injury or death and are not to enter the area. Danger signs must be easily visible and fixed securely at all access points.

Danger Sign and Barricade

7. PERFORMING PLANT ISOLATIONS

Isolation is required in all cases where work is to be carried out on plant where personnel may be exposed to risk of injury or illness, or damage to plant may occur, for example:

- work involving the removal of guards, protective shields, covers, cages or barriers
- dismantling or installation of plant where the restoration or activation of an energy source may expose personnel to risk or plant damage.

The authorised isolator is responsible for:

- getting permission to isolate the plant from the person responsible for the plant
- performing isolations according to a site-approved work procedure
- conducting a risk assessment, such as a Job Safety Environment Analysis (JSA), if there is no work procedure in place
- securing the isolation points and attaching the appropriate locks and tags
- ensuring all tasks in the scope of work have had the energy sources removed or isolated
- ensuring that all personnel involved in the task:
  - understand the conditions of the work
  - have read and signed the required authorisations/documents
  - have attached their personal locks and tags to isolation points
- informing the area supervisor when the plant is safe to return to service.

Take the following precautions before performing isolations.

- Clear the work area.
- Conduct a systematic check to remove/release any stored energy within the plant. For example:
  - make sure that all pressures and energies within the isolated system are drained, released and maintained at atmospheric pressure before work commences and during the period of the work
  - purged and/or clean isolated sections of the system before access.
- Once the equipment is determined to be safe, implement the isolation process.

Isolation of any potential energy source consists of four basic actions:

1.	**STOP**	• Turn the plant off. • Remove the energy source that drives the plant. • Ensure the plant and worksite are made safe for the isolation.
2.	**ISOLATE and PURGE**	• Identify all isolation points using: - visual inspection - work plan, authorisation and isolation sheet - manufacturer specifications - diagrams and schematics - work procedures for isolations. • Isolate all energy sources in the order they are listed on the isolation sheet, and purge stored energy using approved isolation devices on approved isolation points. • Isolation means: - disconnect - de-energise - de-activate - remove from source of energy (i.e. physically separate the components from the source of energy using isolation device).
3.	**TEST FOR PROOF OF ISOLATION**	• Verify the isolation to ensure that: - the power source has been disconnected - all stored energy has been released - all moving parts are stabilised - interlocking equipment is also isolated. • Test each isolation to verify a zero-energy state. • Testing may include: - attempting to operate the plant - viewing pressure/temperature gauges - visually inspecting vent and drain lines - opening a bleed or drain valve - electrically testing a circuit.
4.	**LOCK and TAG**	• Lock/secure the isolation point in the isolated position to prevent re-energisation. • Depending on the task and your site procedures you may: - attach a safety lock (isolation lock) to the main isolation point and put the key in a lock box in the plant control room - apply a hasp/scissor lock to each isolation point and add: - Out of Service Lock and Tag - Personal Lock and Tag - an Information Tag to provide comprehensive information about the isolation. • Instruct others who will perform work under the isolation to attach their own personal lock and danger tag to the lock box or hasp/scissor lock before working on the equipment.

7.1 Positive Isolation

Positive isolation is an isolation that segregates the hazard source from the plant or item of equipment to prevent equipment use or energy flow. This is the most effective type of isolation. Where practicable, use positive isolation for the safe isolation of any systems that require direct access to potential sources of high risk energy, such as high pressure air, steam, liquids, vapours, fuels and chemicals.

Examples of positive isolation include:

- breaking the source of energy by removing pipe work or a spool
- installing an adequately rated blind plate or spade
- removing a conductor for electrical systems
- restraining an item to prevent inadvertent movement.

CAUTION

If it is not possible to achieve positive isolation, perform a risk assessment to determine what controls should be applied.

Installing a Blind Plate

7.2 Proved Isolation

Proved Isolation does not involve disconnection or a positive break. A proved isolation interrupts the energy flow to a specific section or component of plant or equipment. Proved isolation may be acceptable for positive isolation of equipment installed in parallel, where it is intended to take a section of plant offline for maintenance while the parallel equipment is still running. Double block and bleed isolation (DBB) is an example of a proved isolation.

Typical Double Block and Bleed

7.3 Isolation Methods

Select the correct isolation method for the energy source and confirm that the method is effective. The major types of isolations include:

- electrical isolations
- liquids, gases and vapours
- kinetic energy
- confined spaces
- mechanical isolations
- pressurised vessels
- potential energy
- thermal energy.

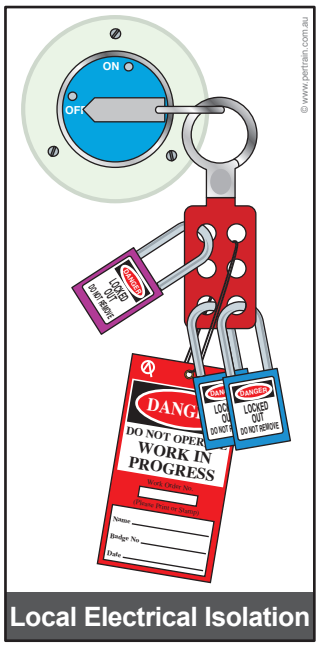
NOTE

The following information is a general guide to applying basic isolations. Always follow the isolation procedures specified by your site requirements.

7.3.1 Electrical Isolations

Before starting work on electrical installations, identify the correct isolation point. Regard all electrical conductors and equipment as live until they are isolated and proved de-energised. Use the appropriate method to isolate a source of electrical energy, including:

- opening an electrical isolator to de-energise a point
- disconnecting an electrical conductor to prevent energisation
- removing a fuse to prevent energisation.



Local Electrical Isolation

CAUTION

Remove electrical load before isolating any electrical energy source.

The preferred method for electrical isolation is a physical break by removing a component in the circuit wherever practicable.

Observe the following precautions.

- Turn off the power supply and remove any electrical plugs from the supply socket (when proven safe to do so) for simple portable equipment or a single energy source for mechanical plant.
- Apply a physical cover/restraint/locking device to the plug end.
- Remove fuse link holders from the fuse bases, place them in a locking bag, secure them and leave them inside the switch panel enclosure or cabinet. Do not leave the holders loose in the cabinet or near the isolation point.
- Secure empty fuse link holders placed in the fuse bases or plastic blanks to prevent use. Do not use plastic tape, electrical tape or tags to secure the fuse base holders.
- Place switches in the required positions with a lock and tag.

NOTE

In order to carry out any electrical isolation, you must be appropriately authorised for that item of plant or equipment.

7.3.2 Mechanical Isolations

Mechanical isolation must prevent the activation, energisation, movement or operation of the plant or specific components. Observe the following precautions when conducting mechanical isolations.

- Stop the plant at a local control point or main isolation point. Lock and tag the point in the isolated position. Secure the safety lock key to prevent access and inadvertent operation.
- Activate braking devices, positional locking devices or stops and use blocks, braces or props to support weights.
- Prevent the movement, rotation and agitation of the plant, associated apparatus or internal components using pins, slings or other mechanical isolation devices.
- Release spring tensions or clamp springs in position and block the movement of spring driven parts.
- Dissipate all stored energy including the inertia in mechanical parts, components likely to move by the force of gravity, electrical capacitors, accumulators, springs and pressurised fluids.
- Prevent the introduction of materials or energy sources through or into the components, for example solid or liquid material flowing into or out of pipes, ducts, vents, drains, chutes or conveyors.
- Monitor any energy sources that can re-accumulate or pressurise to ensure that the energy stays below hazardous levels.
- Visually confirm indicators or gauges supporting mechanical isolation.
- Remove cables, wires, drive shafts, mechanical linkages, belts or drive mechanisms from the energy source and the mechanical equipment.
- Block parts in hydraulic and pneumatic systems that could move from the loss of pressure.
- Visually identify and confirm stopped parts, securing devices and removed parts before testing isolation.

Typical Mobile Equipment Isolation Point

Chocks Prevent Movement

Mechanical Device to Stop Movement

NOTE

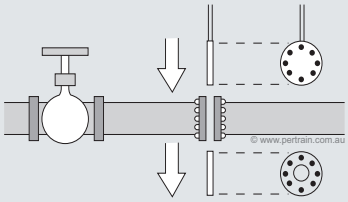
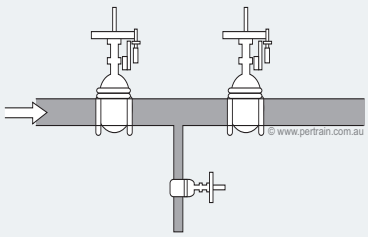
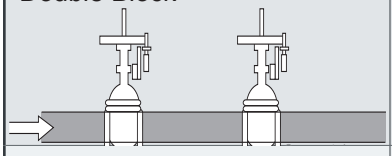
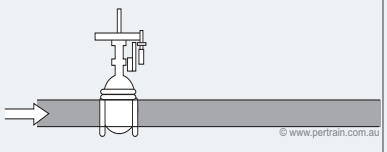
Part of the isolation may require a gate, door, structure, flagging, barrier or barricade to direct traffic and secure access and egress to the isolation or work area.

7.3.3 Liquids, Gases and Vapours

The preferred form of isolation is the creation of an air gap or break by disconnecting or removing plant components, or by using a physical barrier such as a dead-plate, cap, spade or blank. All isolation points must be located between the equipment output and each connected source of pressure or other energy source.

Pressure in the isolated system must be relieved and maintained at atmospheric pressure before work starts and regularly during the period of work.

Use the following procedures for isolating gases, liquids and vapours.

Method	Description
Removal/Blanking 	• Remove a valve, spool piece, section of piping or expansion joint in piping leading to, and as close as practicable to, the work to create a break or air gap. • Apply the appropriate isolation tag to the removed section. • Insert a suitable full pressure spade (blank) in piping between the flanges, or blank or cap the open end of the pipe. Blanking is the fixing of a device to prevent product or energy flow. Blanking may be combined with the closure of a single valve. • Identify the spade to indicate its purpose. • Close and secure valves in the piping to prevent flow and operate a drain vent or valve between the two closed valves. Visually confirm that the piping is fully drained on the downstream side of the isolation points.
Double Block and Bleed 	• Close two valves in series and open a valve or remove a plug to remove by bleeding the material contained in the piping between the two valves. Ideally the two block valves are located relatively close together. Ensure that the bleed vents to a safe location, and is visible and accessible to confirm an effective isolation. Apply a lock and danger tag to the vent and isolated valves. • Assess the integrity of this isolation by checking whether any process material is leaking from the bleed valve.
Double Block 	• Double block isolation involves closing two valves in series between the process and the equipment/plant to be isolated. The two valves should be as close together as possible.
Single Valve 	• Single valve isolation involves closing a single valve between the process and the equipment/plant being isolated. Lock and secure the valve to prevent a change of status. • If a single valve is the dependent isolation, perform a documented risk assessment to determine the integrity of the valve and confirm the isolation. Test the integrity of the valve during the isolation process.

NOTE

Where no pressure indicators have been installed between blanked–off pipe sections, consider the possibility of pressure build up occurring during the blanked off time period.

7.3.4 Pressurised Vessels

Isolators should take precautions to avoid pressure increase due to ambient temperature changes, particularly where a liquid is enclosed with no vapour space for expansion, for example chlorine in piping between two closed valves and exposed to the sun.

Prevent the build-up of excessive pressure in liquid-filled pressure vessels and piping by one of the following methods.

- Leave pressure protection devices in service.
- Partially drain liquid–filled vessels and piping to allow for thermal expansion.
- Depressurise and vent vessels or piping.

Pressurised Vessel

CAUTION

Take care when draining or venting vessels or piping as a vacuum may form and prevent the pressure releasing.

7.3.5 Kinetic Energy

Where appropriate, restrict devices that are free to move, such as blades, shafts and rollers. Use any appropriate method such as chocking, wedging or chaining to achieve movement restriction. These methods should be made part of the isolation where they are to remain in place to allow safe work.

Temporary methods of restricting movement on items that are the subject of maintenance activity should be considered part of the maintenance activity and not part of the isolation. Consider crush and pinch hazards whenever powered tools and equipment or mobile plant are used.

7.3.6 Potential Energy

Devices that are capable of a stored energy state (such as spring, hydraulic and pneumatic devices) should be isolated in a zero or minimum energy state. Objects that may fall or cannot be brought to a low energy state should be restrained appropriately and an exclusion zone set up to prevent contact with personnel.

7.3.7 Thermal Energy

Where there are hot items requiring control, ensure that thermal energy is reduced to safe limits as defined by your site procedure. If the thermal energy cannot be reduced sufficiently, then conduct a risk assessment. In all situations involving thermal energy, take precautions to prevent heat stress. Precautions may include:

- the use of specific PPE
- drinking water to stay hydrated
- scheduling work for cooler times of the day
- work in well ventilated, shaded area if possible.

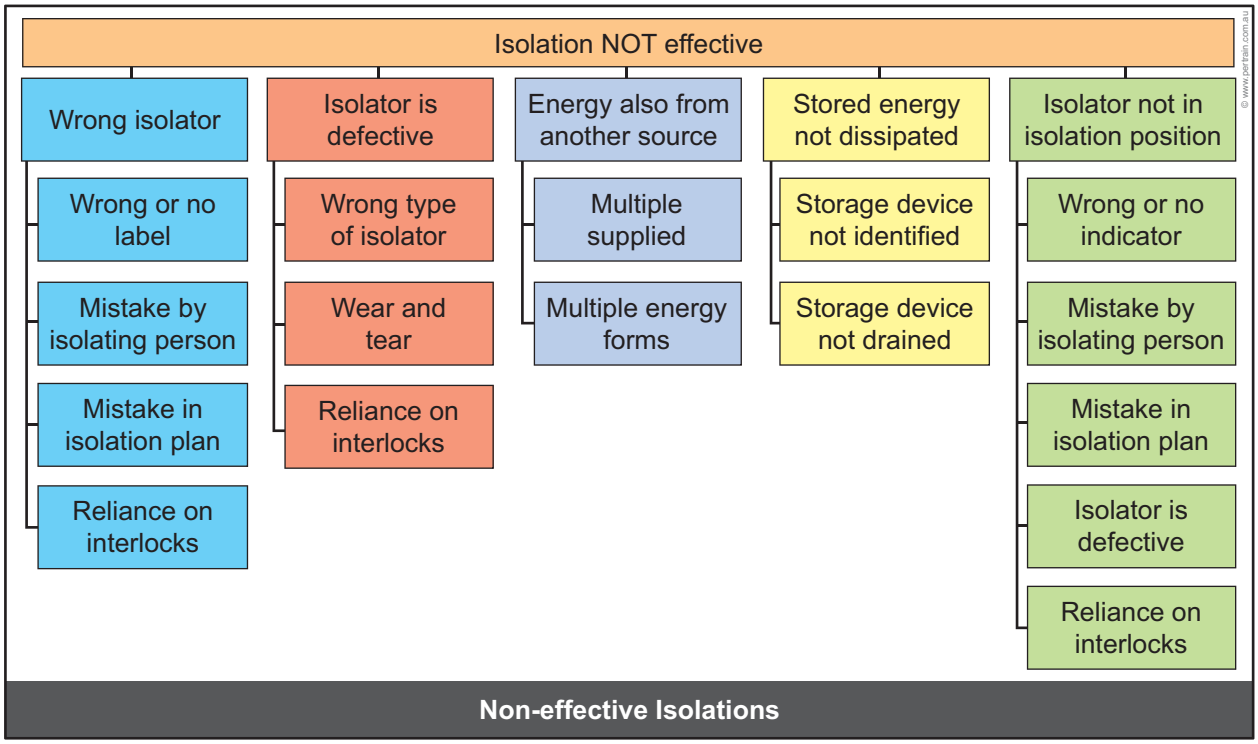
7.3.8 Other Isolations

Consult and observe the relevant isolation procedure for other forms of hazardous energy sources, including:

- high voltage plant
- chemical systems or energy
- operator standby isolations
- biological hazards
- vibration energy
- radiation
- moving parts or devices
- remotely operated equipment
- fire/explosion hazards
- sound energy
- hot work
- hydraulics/pneumatics.

7.4 Non-effective Isolations

An isolation can be non-effective for the following reasons.



If the isolation is not effective set up/maintain an exclusion zone around the plant to restrict access. Refer back to the JSA and talk to your supervisor about additional or alternative isolation methods.

7.5 Completion of Isolation and Handover

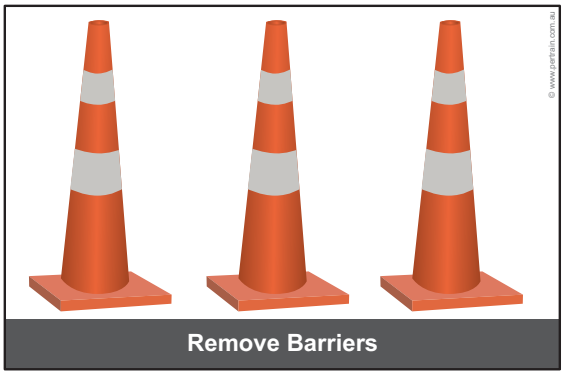
When all isolations have been applied and proved conduct the following actions.

- Complete all documentation including the isolation sheet or other statement of isolations applied.
- Inform other personnel involved in the isolation process (if applicable) that the isolation procedure is complete.
- Ensure that all personnel have completed the sign-on/sign-off requirements.

7.5.1 Clear the Work Area

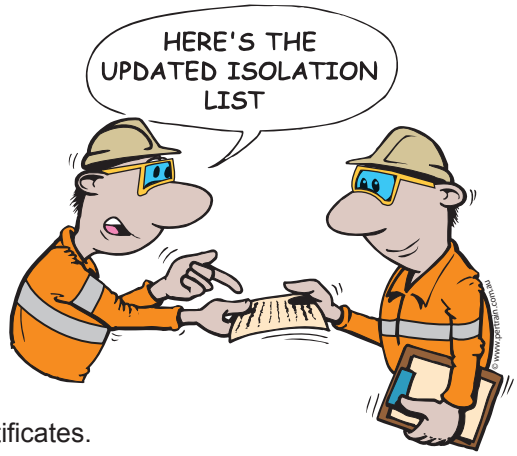
The work area must be cleared and made safe as described in the JSA or work procedure. This may include the following actions.

- Confirm that all personnel have vacated the plant area.
- Verify that all tools, equipment, and unused locks and tags have been removed from the plant area.
- Confirm that the isolated area is safe.
- Remove barricades and signs, unless they are required to remain for continued work at the site.
- Ensure that a test certificate is supplied for any electrical work, if required.



7.5.2 Hand Over Plant

Transfer control of the isolated plant and equipment to the authorised person to allow further work to continue.



- Inform the authorised person when the isolation is complete.
- Return all completed and signed documentation to the authorised person, including the Isolation Sheet or similar statement of isolations.
- Discuss the isolations and controls that have been applied with the relevant personnel.
- Ensure that all isolations are confirmed.
- Sign off the ATW and any associated Clearance Certificates.
- Return isolation keys to the control room or authorised person to be secured according to site procedures.
- Store all unused locks and tags in the designated location.

The authorised person will inform the personnel who will conduct maintenance or repair work on the isolated plant or equipment. The authorised person will also perform the required ATW procedures to allow the work to proceed.

8. DE-ISOLATION

When the required work is complete, the person in charge of the repair or maintenance work will return the ATW to the person authorised to issue and cancel ATWs. Depending on your site procedures, the surrender of the completed ATW will indicate that the plant is ready for de-isolation. Provided that the isolation sheet from the surrendered ATW is not linked to another ATW, the plant can be de-isolated and returned to service.

CAUTION

Isolations are not to be removed until all persons who have worked on the plant have completed the work, signed off, removed their locks and the plant checked to ensure it is safe to return to service.

8.1 Coordination

Coordinate the de-isolation procedure with all relevant personnel before starting and during the work. Relevant personnel may include:

- control centre personnel
- supervisor
- ATW issuer
- maintenance personnel
- other personnel performing work in the area.

8.2 Prepare for De-isolation

Confirm that the plant is ready for return to service. Your site procedure may require you and/or an authorised person to perform the following checks and inspections.

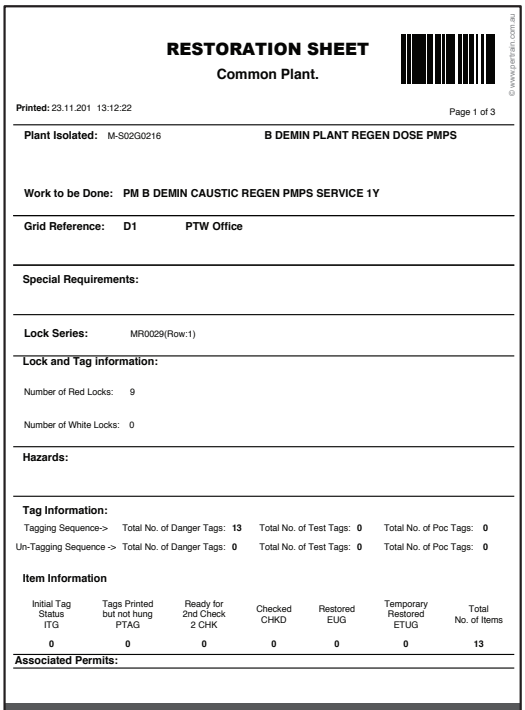
- Confirm that the work has been completed according to the work plan and/or site procedures.
- Inspect the area for non-essential items.
- Ensure that all components are intact and in place.
- Check that all potential hazards are controlled or removed.
- Confirm that all protective guards are in place.
- Verify that the plant is in a safe and suitable condition for service.
- Check the work area to ensure that all personnel are clear.
- Check that the sign on/sign off procedures have been completed.
- Check for links between the isolation sheet and any other ATWs.
- Ensure that all ATWs have been signed off and returned to the ATW issuer.

8.3 De-isolation Procedure

Once you have confirmed that the plant is ready for return to service, perform the de-isolation according to the JSA and/or your site procedure.

The following is a typical de-isolation procedure.

1. Refer to site procedures to confirm the de-isolation procedure.
2. Obtain the appropriate restoration/de-isolation documentation. This may be a restoration sheet, or the isolation sheet prepared during the planning stage of the isolation.
3. Access the isolation keys according to site procedure.
4. Remove the isolation locks and associated tags from the plant or equipment according to the ATW or work procedures.
5. Change the isolation plant status as required to restore energy sources.
6. Document all changes in isolation point status.
7. Record each restoration on the isolation/ restoration sheet as each step is completed.
8. Ensure that the plant is safe for operation.



RESTORATION SHEET
Common Plant.

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Plant Isolated: M-S02G0216 **B DEMIN PLANT REGEN DOSE PMPS**

Work to be Done: **PM B DEMIN CAUSTIC REGEN PMPS SERVICE 1Y**

Grid Reference: **D1** **PTW Office**

Special Requirements:

Lock Series: MR0029(Row:1)

Lock and Tag information:

Number of Red Locks: 9

Number of White Locks: 0

Hazards:

Tag Information:

Tagging Sequence-> Total No. of Danger Tags: **13** Total No. of Test Tags: **0** Total No. of Poc Tags: **0**

Un-Tagging Sequence -> Total No. of Danger Tags: **0** Total No. of Test Tags: **0** Total No. of Poc Tags: **0**

Item Information

Initial Tag Status ITG	Tags Printed but not hung PTAG	Ready for 2nd Check 2 CHK	Checked CHKD	Restored EUG	Temporary Restored ETUG	Total No. of Items
0	0	0	0	0	0	13

Associated Permits:

Typical Restoration Sheet

8.4 Housekeeping and Documentation

Complete the restoration process by performing housekeeping duties and updating and submitting required documentation.

1. Dispose of used tags according to procedures.
2. Return isolation locks, keys and other isolation devices to the designated storage area.
3. Confirm that all ATWs are cancelled before the plant is returned to service.
4. Complete all documentation and file ATWs, isolation sheets, de-isolation/restoration sheets and associated documents according to site procedures.
5. Fill out log books, daily activity sheets or timesheets and submit a full report on shift operations to provide the on-coming shift with information. Follow the site reporting procedures when submitting reports. An end of shift report or shift handover should be comprehensive and include some or all of the following information:
   - identified hazards and controls employed
   - equipment defects and maintenance requirements
   - faults such as power supply stoppages and connection problems
   - environmental issues
   - location of tools and other equipment
   - summary of work done and any deviations to the work plan.

9. NON-COMPLIANCE

Breaches of site procedure and ATW requirements put people at risk and are treated very seriously. Non-compliance may result in disciplinary action.

Take these steps if you see any non-compliance issues in relation to you work.

- Stop work immediately.
- Review the JSA to confirm the activity is not in compliance with the task requirements.
- Report the non-compliance to the supervisor or safety representative according to your site procedures.
- Do not recommence work until compliance with the procedure is met and authorisation for work to restart has been given by the appropriate person, i.e. supervisor or ATW issuer.

10. EMERGENCY PROCEDURES

Work sites are required to have an emergency management plan in place that details the actions to be taken in the event of an incident. Access and become familiar with these procedures so that you can apply them in an emergency situation.

NOTE

The following examples are a guide only. Always follow site procedures.

10.1 Emergency Response

Notify your emergency services/response team immediately using the most effective communication device, for example two-way radio or mobile phone.

Once contact is established, provide:

- your name
- the location and nature of the accident or emergency
- number of persons injured and type of injuries
- what assistance is required (ambulance, fire)
- what hazards exist.

Follow the instructions given to you by the emergency personnel.

10.2 Fires

Follow the site procedures if there is a fire on the plant or equipment you are working on. The procedure may include the following instructions.

- Bring operations to a stop as quickly as possible. If you are using mobile equipment stop in a safe location, away from other hazards and equipment if you can.
- Shut down the plant or equipment and isolate the main energy source if it is safe to do so.
- Manually activate the fire suppression system, if necessary. Many systems will operate automatically.
- Initiate emergency response.
- Use the hand-held fire extinguisher to control the fire, if you can do so without placing yourself in danger.
- Once the extinguisher is discharged, move away to a safe location.

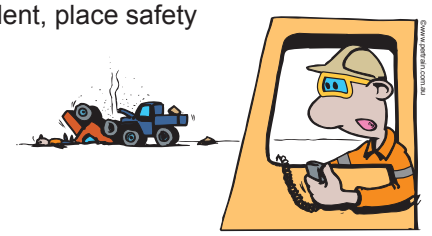
Fire Extinguisher

NOTE

Know the location of the fire extinguishers before starting operations.

10.3 Incidents Involving Vehicles

Any incident involving vehicles or mobile equipment must be reported to your supervisor immediately. Do not disturb the vehicle(s) or the incident site, except to save someone's life or to prevent further injury. If a hazard to other road users exists as a result of the incident, place safety cones or lights on either side of the incident as a warning.



If someone has been seriously injured, contact the relevant authority, giving accurate information and directions. Where possible arrange for another vehicle to meet and escort emergency vehicles to the scene.

11. COMPLETING YOUR TRAINING PROGRAM

Congratulations! By now you should be familiar with the requirement for isolating and accessing plant. In order for your training to be recognised, you will need to work in different conditions over a period of time and complete a formal assessment.

NOTE

You are responsible for increasing your skills, knowledge and understanding so that you can attempt the assessment.

11.1 Formal Assessment Process

The final step in the training program is for you to complete the formal assessment. The assessment is conducted in a production environment. Your assessor will observe you to ensure that you can isolate and access plant safely and efficiently.

Your assessor will request that you conduct specific activities, ask the occasional question and refer to your work reports and other related documentation.

If you have worked through the training program correctly, you should only need to conduct operations as you would on a regular shift. When you have successfully completed the assessment, your training to isolate and access plant will be recognised.

12. SUMMARY

This training resource has provided information on your obligations for isolating and accessing plant. The material has explained the safety procedures you must follow and the techniques that you will use.

13. APPENDIX

13.1 Terms and Acronyms

If you hear a term or acronym that you are unfamiliar with, ask your supervisor or co-workers what it means and add it to this list.

Term	Meaning
ATW	Authority to Work. A planning tool and control system designed to manage work safely and effectively by ensuring that work precautions, including isolations and other controls, are implemented before work starts.
Kinetic	Relating to motion.
Purge	Physically remove something completely.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