Lockout and Tagout Works Procedure

1. Purpose

The WA Country Health Service (WACHS) is committed to providing and maintaining a safe work environment. Under the *Work Health and Safety Act 2020* (WA) (WHS Act), WACHS has a primary duty of care to ensure, so far as is reasonably practicable, the health and safety of workers (while those workers are at work), as well as to ensure that other persons are not put at risk from work carried out as part of WACHS's business or undertaking.

The purpose of this Lockout and Tagout (LOTO) procedure is to mitigate the risk of personal injury or damage to plant, equipment and the environment.

Isolation is required where work requires any part of the body to be in a position where unexpected movement, release of stored damaging energy, energising of electrical systems or the flow of gasses or fluids could result in injury or illness. This document outlines the process to be applied when working on plant, equipment, or machinery that must be isolated, de-energized, locked-out and tagged-out to reduce risk associated with energized plant and equipment.

2. Procedure

This procedure applies to all sites and workers who are required to use personal locks, isolate equipment or issue isolation permits. This procedure has been developed in accordance with the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)/WorkSafe Code of Practice: Managing risks of plant in the workplace, DEMIRS/Department of Commerce Guidance note: Isolation of Plant 2010.

There may be occasions and tasks where it is not possible or practical to perform a regular isolation procedure to protect the personnel performing a task. This may be due to factors such as the nature of the work to be performed, the remoteness of the isolation points or other hazards that may be created by performing isolation. In these cases, a Job Hazard Analysis must be developed using a team of people to assess the risks and determine appropriate controls to provide an appropriate level of protection. Where the identified risk cannot be reduced to a tolerable level of risk, the task should not be performed and escalated to the relevant authority for appropriate advice and direction.

2.1 Risk Management

All LOTO activity requires workers to ensure risk assessments are conducted prior to work commencing. Risk Assessment can be done through the completion of either Take 5, Job Hazard Analysis (JHA) Form and/or Safe Work Method Statement (SWMS) Form and follow the Job Hazard Analysis Procedure or Safe Work Method Statement Procedure to ensure all hazards are identified and isolation processes are written and followed.

Before work begins workers should:

- be familiar with the PCBU isolation procedure
- consult original design diagrams to understand where different parts are located and used to create isolation instructions. If the original diagrams aren't accessible, ideally new diagrams or photos should be attained.
- plan and discuss the job with site supervisor and co-workers
- conduct a safety and risk assessment of what is to be isolated and check that all required isolation points area identified
- notify the site Manager of isolating operational areas.

Prior to starting work that requires isolation, a competent person should identify:

- the plant or equipment to be worked on
- safe access for all persons
- all sources of energy relevant to the task
- all relevant points of isolation to achieve positive and total isolation
- any equipment affected by the isolation
- when machinery or equipment are combined and involves various processes, hazards, or power sources, written isolation instructions must be created.

Isolation instructions must identify all energy sources likely to re-activate the plant. These sources include:

- electricity
- stored energy
- gravity
- radiation
- independent electricity sources
- local isolation switches
- main power board.

2.2 Training and Competency

Workers intending to undertake isolation of plant and equipment in a workplace, need to be suitably trained and possess qualifications relevant to the scope of work.

2.3 Barriers

Barriers are not positive form of isolation. Barriers are used to control or restrict entry to an area which contains hazards. All barriers need to comply with AS/NZS 4836:2023 – Safe working on or near low-voltage electrical installations and equipment. The standards can be accsess via the WACHS Library.

Barriers on WACHS sites may include:

- caution tape
- danger tape or;
- for isolations required for extended period, consider robust barrier options such as:
  - scissor barrier
  - flexible plastic barriers
  - bunting mesh barricades
  - permanently erected barriers.

Barrier tapes shall be removed when all hazards/faults have been rectified and the area is safe for entry. All removed barrier tape is to be disposed of correctly.

Caution Tape

Caution tape is yellow and black and is used to cordon off an area. Its purpose is to control access to a particular area that contains hazards and can be erected by any person.

Where a worker identifies a need to erect caution tape, that person shall report the erection of the barrier to their immediate supervisor.

All access points to such an area must have a barricade tag attached to the caution tape. Personnel may pass through caution tape only after approval from the person listed on the barricade tag or their delegate.

Those responsible for controlling access to cordoned off areas must consider the following, but not limited to:

- Personnel may pass through caution tape only after approval from the person listed on the barricade tag or their delegate.
- Does the person requesting entry need to enter?
- Will additional personnel cause congestion or create other hazards?
- Have they been made aware of the hazards in the area?
- Do those assigned to work within the area need to be made aware of other people entering?

Danger Tape

Danger tape is used to cordon off an area which contains uncontrolled higher risk hazards. Its purpose is to fully restrict access to a particular area and can be erected by any person. All access points to such an area must have a barricade tag attached to the danger tape.

No person may pass through danger tape. Danger tape indicates strictly no entry to an area. It is acknowledged that personnel may have to enter such areas in order to control hazards. Where access to such an area is required, caution tape shall be erected prior to the danger tape being removed. Only then may personnel enter such an area, and only after assessing the hazard risks and controls, and obtaining verbal authorisation from the person in control or their delegate.

2.4 Tagging

Tags are not isolation devices; they serve as information tools for others at the workplace. For isolation, locks should be used. However, when using a lock, it is good practice to include a tag that explains why the lockout is in place. Below are some commonly used warning tags:

Barricade Tag

Barricade tags help preserve the integrity of the surrounded area by identifying the purpose and basis for the barricade. Safety barricades are built to keep individuals away from hazardous or dangerous areas and establish a perimeter. Barricade tags provide vital information and specific requirements when entering as well as exiting a regulated or potentially dangerous area.

Out of Service Tags

Purpose of an Out of Service tag:

- The purpose of an Out Of Service tag is to advise personnel that the plant or equipment has been identified as faulty or unsafe and is not to be operated, and that the equipment may not be used until cleared for safe operation.

Who uses an Out of Service tag?

- A competent person who is familiar with the equipment should use out-of-service tags.
- An out-of-service tag should only be removed if equipment is safe for regular use.

When is an Out of Service tag placed?

- when equipment is faulty or may cause further damage or injury to personnel
- at shift end &/or when personal danger locks & tags are being removed and the equipment is still out of service/faulty.

How is an Out of Service tag used?

- The Out of Service tag shall be placed in a prominent position on the isolation point(s) where it can be easily seen by anyone attempting to start, operate or access the plant or equipment.
- The Out of Service Tag must contain the following information:
  - Equipment: The equipment description
  - Placed by: The name of the person placing the Tag
  - Dept/Sect: Department and Section, or Contractors Company Name
  - Date: The current date
  - Time: Time that the Tag is placed,
  - Reason: The reason for placing the Tag. Ensure that adequate information is recorded so that all readers can understand why the Out of Service Tag is there.
- In situations where the Out of Service tag is placed to indicate defective plant or equipment, details of the issue must be communicated to maintenance persons as soon as possible.

Precautions with Out of Service tags:

- Do not operate any plant or equipment if there is an Out of Service tag attached to it other than for the purpose of positioning the equipment for repair, in which case a Commissioning & Test tag must also be attached.
- If you are unable to find out the reason for the Out of Service tag, or if you cannot find out if the plant or equipment has been repaired, then notify a Supervisor so that an inspection and test can be carried out.

Removal of the Out of Service tag

- When the Out of Service Tag has been used to indicate defective plant or equipment: It can only be removed by an Authorised Isolator, the person who rectified the fault or their supervisor and only after being satisfied it is safe to do so.

Personal Danger Tags

Purpose of the Personal Danger tag:

- The purpose of the Personal Danger tag is to inform personnel that the person named on the tag is working on a task that requires the isolation point to which the tag is attached to remain Isolated.

Who uses a Personal Danger tag?

- All personnel intending to undertake work on a task that requires Isolation.

Where is a Personal Danger tag placed?

- Personal Danger tags are only to be placed on an isolation point, to which an Isolation Tag and lock has been attached. When working under a Permit of Isolation the Personal Tag and Lock are placed on the Lock Out Station.

How is a Personal Danger tag used?

- Personal Danger Tags are always used in conjunction with Personal Locks by threading the Lock's shank through the eyelet in the tag.
- The Personal Lock must then be attached to the Isolation Device, which has five locations for isolation, such as a scissor clip or distribution board isolator.

The Personal Danger tag must contain the following information:

- Equip No: The equipment description (if necessary)
- Placed By: The name of the person placing the tag
- Signature: The signature of the person placing the tag
- Dept/Sect: Department and Section, or Contractors Company Name
- Date: The current date
- Time: Time that the tag is placed, Personal Danger tags are only placed and removed by the person whose name appears on the tag.

Personal Danger tags are removed and destroyed by the person owning the tag:

- as soon as possible upon completion of works
- person is transferred to another job task, or
- at the completion of the shift.

2.5 Locking Out Isolation Points

Lockout Devices

There are many tools for securing energy sources and hazards. Only devices that incorporate locks or ones that can hold padlocks are suitable for locking out energy sources.

During plant inspection, repair, maintenance, cleaning or adjustment, each authorised competent worker should only hold the one key to their lock. That person is responsible for both locking and unlocking the lockout device. If there

are multiple energy sources, they must be locked out to enable safe shutdown of the plant, the same person should hold the single key to each lockout device.

There should be no duplicate key for any lock, except a master key that is kept in a secure location, and which should only be used in an emergency.

One Person One Lock

When multiple workers work on the same plant, each should use their own lock, if plant is isolated through several lockout points, each worker should attach a lock and tag to each lockout point. The isolation instructions should identify common lockout points to avoid energy restoration during work.

The requirement for multiple locks can be managed using a lock box. The lock box system uses one lock at each lockout point. Keys to the locks of the plant's lockout points are inside the box which is locked by all the individual locks of people working on the same plant.

Lock Dog

A lock dog is a device used to isolate a circuit braker in the off position to allow workers to perform isolation works on the circuit or an equipment to prevent accidental start-up of the equipment.

2.6 Machine or Equipment Shutdown for Isolation

If the equipment is operating, it must be shut down prior to any works being undertaken. Only workers who are trained to operate the equipment should handle the shutdown or restart processes.

When shutting down machinery or equipment works must ensure:

- the site LOTO Isolation Register is accurate and complete before work commences.
- it is turned off and will not be used
- all energy sources are disconnected or isolated
- electrical disconnect switches are not pulled while under load
- stored energy must also be released, disconnected, or restrained
- fuses are not pulled to lock out as it does not guarantee the circuit is dead.

Note, the DEMIRS/Worksafe Checklist - Isolation of plant/lock-out tag-out applies where any inspection, cleaning, repair, maintenance or alteration of plant is carried out or where the function or condition of plant is poor and it presents an immediate risk to safety.

Shutting the plant or equipment down may require identifying and removing or minimising other hazards to reduce the risk of injury. All hazards must be reported to the worker in control of the equipment and complete a Safety Risk Report Form (SRRF).

Isolate all Energy Sources

All electricity sources must be identified and disconnected. Local isolating switches must be used for equipment controlled by programmable logic devices. A worker skilled with the equipment may be nominated to help manage isolating energy sources and risks.

Where equipment connects via a plug and socket, only a competent person, such as an electrician, should isolate and disconnect all the electrical supply and the control circuit. This ensures that the equipment cannot be powered by another source or control system.

Identify all Isolation Points

Plant and equipment that requires isolating must have appropriate isolation points for all energy sources and all of these must be identified. Sometimes a local isolator might be required to shut down a specific part of the machine while the rest of the plant remains in operation.

Emergency stop buttons and similar stop devices should not be considered adequate isolation points. Depending solely on these for isolation poses risks for the following reasons:

- they are not designed for frequent use
- they cannot not always be locked out
- there is a potential for re-energization
- control circuits may remain active.

Guarding

Guarding designed to protect workers from moving parts may need to be removed or de-activated before adjustment, inspection, cleaning, repairs or maintenance. The plant's energy source must always be isolated and locked out before guarding is removed. When work on the plant is complete, guarding must be replaced and secured before energy is restored and normal operations re-commence.

More than One Energy Source

Multiple energy sources and hazards must be locked out for a safe plant shutdown, one worker should hold the key for each lock. When several workers work on a plant with multiple lockout points, each must attach a lock and tag to each point.

2.7 De-energise all Stored Energies

To prevent energy from remaining after isolation, consider these steps:

- check if all parts have stopped moving
- install ground wires
- release trapped pressure
- ease tension in springs or block spring-driven movements
- secure parts that could fall
- stop hydraulic and pneumatic parts that could move
- open vent valves and bleed lines
- drain and shut valves in process piping
- use a blank flange to block a line where there is no valve
- purge reactor tanks and process lines
- dissipate extreme cold or heat or provide protective clothing.

2.8 Testing Isolation

After shutting down, locking out and tagging the plant including remote control stations and computers, a competent person must:

- calibrate testing equipment before use
- test all isolated power sources i.e try to restart the plant.

Lockout/Tag Interruption

When a machine is locked or tagged, and testing or positioning is necessary, follow these steps:

- clear tools and materials
- keep workers at a safe distance
- remove locks/tags
- perform the test and/or complete repositioning
- de-energize all systems
- re-lock/re-tag the controls before resuming work.

2.9 Completing the Work

While working, stay alert for unexpected hazards or changing conditions. Once remedial work is complete, workers who tagged the controls are to remove the tags or locks and restore energy before the plant is returned to its operational status. The person removing the tag is required to sign off the LOTO Isolation Register

Removal of Lockout – Tagout (LOTO)

To safely remove a LOTO and restore the equipment:

- finish the work, make the area safe, and complete paperwork
- remove locks and tags
- reverse isolation and return the equipment to normal operation
- test the equipment as needed (e.g., polarity, purity, phase rotation)
- confirm that the equipment works safely before returning to service.

Note: Place equipment or service on stand-by or back-up, overnight or for 24hrs; to ensure repair or maintenance is effective, as required.

Once equipment is functioning correctly:

- remove “Out of Service” signs
- inform ward/department/facility that works are complete.
- return Lock Box (if multiple trades or isolations)
- record all work undertaken as per site procedures
- store equipment and contractor personal tags for one month.

Incomplete Work

If a worker, whether working alone or with a group, leaves the work area while equipment is still out of service, they must:

- make sure the area remains safe
- advise remaining workers that they are leaving and their intention to remove their personal danger and isolation lock

- replace their personal isolation and danger tags with equipment isolation locks and caution/out of service tags
- coordinate with others and the person in charge
- check that the isolation is secure
- discuss the plant and equipment isolation lock key management with the person in control
- record key location details on the tags.

LOTO Lock Left Unattended

If a personal lock remains and its owner is absent and/or unable to return to the site, the person in control must:

- appoint (in writing) an authorised person to:
  - check plant and equipment if it's safe to remove lock/tag or isolation
  - inspect the equipment is assembled, covers in place and its safe.
- if the equipment or service is deemed:
  - unsafe - maintain the lock out and use an Out of Service tag
  - safe - remove the lock/tag or isolation.
  - inform the lock owner that their site access is cancelled, and they must report to RMISS.
  - complete a SRRF.

2.10 Failure or Breach of LOTO Process

If there is a LOTO or isolation process breach:

- the person in control investigates the alleged breach and possible reasons for the breach
- complete a SRRF
- determine appropriate action to be taken.

Hazards and incidents must be reported in line with the Hazard / Incident Management Procedure.

3. Roles and Responsibilities

Person Conducting a Business or Undertaking (PCBU) is responsible for:

- ensuring workers complete required inductions
- providing training and supervision information
- ensuring workers have been trained or deemed competent, providing PPE and usage guidelines
- ensuring that equipment used within LOTO meets standards and is regularly inspected and maintained
- establishing and maintain safe work practices

The **Regional Manager Infrastructure and Support Services (RMISS)** is responsible for:

- establishing and maintaining safe work practices
- selecting the Person in Control; supervisor or manager or nominated delegate
- authorisation of works to begin when risks are high or intolerable
- managing and overseeing this procedure
- operational processes being undertaken and oversight of compliance

The **Person in Control,** as nominated by RMISS, is responsible for:
- ensuring workers complete required inductions
- providing information, training, and supervision
- verifying workers have necessary licences and training
- providing LOTO procedures
- providing PPE and usage guidelines
- ensuring risk assessments have been conducted before isolation of plant or equipment
- developing and using of LOTO procedures
- ensuring workers have completed their required training
- ensuring that equipment specific instructions (Safe Work Method Statements) are developed and inspected periodically (at least annually).

The **Regional Work Health Safety and Security Manager** is responsible for providing:
- advice to managers and supervisors on LOTO requirements in the workplace as it relates to monitoring and compliance
- advice and consulting with managers and staff on how to manage hazards and risks that have been identified and raised via SRRF reporting.

Workers (Contractors, Employees and Volunteers) are responsible for:
- performing risk assessment
- using lockout/tagout procedures to control hazardous energies
- taking reasonable care of their own and others' safety and health
- undertaking the relevant training
- cooperating with PCBU in carrying out safety and health requirements

All staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

4. Monitoring and Evaluation

4.1 Monitoring

Monitoring for this document is conducted by the People Capability and Culture and Infrastructure and Environment Directorates to ensure compliance across all WACHS sites. This involves periodic reviews of the following:
- comparison of risk assessments with work orders raised in Agility
- periodic assessment of site-specific isolation registers, including monitoring inspection and maintenance frequency
- regular assessment of the Online Contractor Induction System to ensure that contractors have been inducted according to WACHS expectations for safe working practices.

4.2 Evaluation

Evaluation of this document will be undertaken collaboratively by the People Capability and Culture and Infrastructure and Environment Directorates utilising the outcomes of periodic review and auditing data as well as stakeholder feedback.

5. Compliance

This procedure is compliant with the *Work Health and Safety Act 2020* and Work Health and Safety (General) Regulations 2022.

Failure to comply with this procedure may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Integrity Policy Framework issued pursuant to Section 26 of the *Health Services Act 2016* and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies and procedures is mandatory.

6. References

DEMIRS/Department of Commerce Guidance note: Isolation of Plant 2010

DEMIRS/Worksafe Checklist - Isolation of plant/lock-out tag-out

DEMIRS/WorkSafe Code of Practice: Managing risks of plant in the workplace

safe work australia Guide for safe design of plant

safe work australia – Supporting Information - Plant designers, manufacturers, importers and suppliers information sheet

Standards Australia AS 4024.1603-2006 – Safety of machinery. Available from i2i - Online Viewer (AS/NZS 4024.1603-2006: EN) (saiglobal.com) [accessed 2024 March 06].

Standards Australia. AS/NZS 4836:2023 – Safe working on or near low-voltage electrical installations and equipment. Available from: i2i - Online Viewer (AS/NZS 4836 : 2023 : EN) (saiglobal.com) [accessed 2024 March 06].

7. Definitions

Term	Definition
Authorised Isolator	An “Authorised Isolator” is a person who has received the appropriate training in Isolation & Tagging procedures and has been deemed competent to use isolation locks and tags in their work area(s).
Competent Person	A person who has acquired through training, qualification or experience, the knowledge and skills to carry out the task.
Stored Energy	Batteries, springs, flywheels, accumulators, capacitors, inductors, suspended weights or loads, large volumes under gravitational force, fluids under pressure (water, effluent, air or hydraulic oil).
Energy Sources	An energy source is a form of energy e.g. electrical (mains, solar, generator, UPS or inverter), mechanical, fuel, chemical fluids under pressure, hydraulic, radiation,

	thermal (heat, steam), gravitational, pneumatic, and kinetic energy systems.
Energy-isolating device	A device that physically prevents the transmission or release of energy, including the following: • manually operated electrical circuit breaker • disconnect switch • manually operated switch to disconnect circuit conductors • line valve • block • any similar device used to block or isolate energy.
Danger Tag	Danger Tags indicate that the worker whose name appears on the tag is working on the item of plant, and that the item must not be operated as operation could result in an incident occurring (e.g. injury). Each worker that is working on any type of plant must complete and attach a personal Danger Tag to an appropriate type of isolation device. It is recognisable as a red and white tag with the wording 'Danger Do Not Operate'. Tags shall only be removed by the person who placed and signed the tag. Where more than one person or a group is working on the same isolated energy.
Hazard	A situation or thing that has the potential to harm a person.
Isolation	Isolation is the removal of the energy source from an item of plant to prevent the accidental or unplanned energisation so that the plant does not move or start up. It also restricts entry to an area during the task.
Isolation Point	A point at which an Isolation Lock and Tag can be applied to effect positive isolation or an energy source from equipment.
Lock Box	Used for multiple isolation points and tracking the number of people working on an equipment/plant/service.
Out-of-Service Tag	Plant that is deemed to be unsafe to operate can be taken out-of-service by the placement of an Out-of-Service Tag. Out-of-Service Tags are placed on plant to indicate it may be unsafe to use or operate, as it is not operating correctly or is not ready to be operated and use of that plant may cause an incident. It is recognisable as a yellow and black tag, with the wording 'Caution Out of Service'. Out-of-Service plant must not be operated.
Person conducting a business or undertaking (PCBU)	PCBU is an umbrella concept which intends to capture all types of working arrangements or structures. A PCBU includes a: • company

	• unincorporated body or association • sole trader or self-employed person.
Person in Control	A person who has control of premises used as a workplace. The person with control may be: • the owner or nominated representative of the premises. • a person who has, under any contract or lease, an obligation to maintain or repair the premises. • a person who is occupying the premises. • a person who can make decisions about work undertaken at the premises; or • an employer at the premises
Plant	Plant includes machinery, equipment, appliance, container, implement and tool components or anything fitted or connected to those things.
Risk	The possibility harm (death, injury or illness) might occur when exposed to a hazard.
Worker	Any person who carries out work for a person conducting a business or undertaking, including work as an employee, contractor or subcontractor (or their employee), self-employed person, outworker, apprentice or trainee, work experience student, employee of a labour hire company placed with a 'host employer' or a volunteer.
Workplace	Any place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work.

8. Document Summary

Coverage	WACHS-wide
Audience	All staff
Records Management	Non Clinical: Corporate Recordkeeping Compliance Policy
Related Legislation	• *Electricity Act 1945* (WA) • *Work Health and Safety Act 2020* (WA) • Work Health and Safety (General) Regulations 2022 (WA)
Related Mandatory Policies / Frameworks	• MP 0006/16 Risk Management Policy • MP 0180/23 Work Health and Safety Management Policy • Clinical Governance, Safety and Quality Framework • Risk, Compliance and Audit Framework • Work Health and Safety Framework
Related WACHS Policy Documents	• Hazard / Incident Management Procedure • Job Hazard Analysis Procedure • Safe Work Method Statement Procedure • Work Health and Safety Policy
Other Related Documents	• DEMIRS/Department of Commerce Guidance note: Isolation of Plant 2010 • DEMIRS/Worksafe Checklist - Isolation of plant/lock-out tag-out • DEMIRS/WorkSafe Code of Practice: Managing risks of plant in the workplace • safe work australia Guide for safe design of plant • safe work australia – Supporting Information - Plant designers, manufacturers, importers and suppliers information sheet • WACHS LOTO Isolation Register
Related Forms	• Job Hazard Analysis Form • Safe Work Method Statement (SWMS) Form
Related Training Packages	Nil
Aboriginal Health Impact Statement Declaration (ISD)	ISD Record ID: 2602
National Safety and Quality Health Service (NSQHS) Standards	1.07 - 1.10, 1.20 - 1.22, 1.25, 1.29, 131
Aged Care Quality Standards	Nil
Chief Psychiatrist's Standards for Clinical Care	Nil

9. Document Control

Version	Published date	Current from	Summary of changes
1.00	20 March 2024	20 March 2024	New procedure.

10. Approval

Policy Owner	Executive Director Infrastructure and Environment
Co-approver	Executive Director People, Capability and Culture
Contact	Program Manager Assurance and Risk Infrastructure
Business Unit	Infrastructure and Environment
EDRMS #	ED-CO-24-86729

This document can be made available in alternative formats on request.