ENERGY LOCK OUT TAG OUT PROCEDURE

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REVISION HISTORY

Item	Description	By	Date
1	Update of 3.19.1 of index, 2.1, 2.2, 3.19.1, 3.22, 3.24, 5.1, 5.2.4, 5.2.5, 5.2.6, 5.2.6, 5.2.9, 5.2.9	Frank Coyte (Get Compliance)	16/07/2012
2	Update of 5.2.10, 5.2.11, 5.3.1, 7.6, 9.3, 10, update of 7.11 valve cap photo	Frank Coyte (Get Compliance)	30 Nov 2012
3	2.2 Internal sources, change electrical SWMS25 to SWMS27	Kerry McGovern	30 Nov 2012
4	More information on definition of tags and numbers of locks as requested. Include reference to FOR346 QUU isolation register in the related documents and changed FOR346 “Lockout Coordinator” to “Lockout Officer” for future book print artwork.	Kerry McGovern	30 Nov 2012
5	Inclusion of new valve photo	Ron Hyde	22 Jan 2013
6	Version 2 major revision changing lock and keying arrangements	Spencer Mackinnon	22 May 2013
7	Version 2.1 inclusion of 6.4.2.1, 2 and update to 5	Spencer Mackinnon	10 June 2013
8	Name change from SWMS 43 to PRO379 version 1	Spencer Mackinnon	Dec 2013
9	PRO379 Version 1.1. Updated references as well as definitions from the latest Electrical Safety Act.	Stuart Graeff	May 2017

1. PURPOSE

The purpose of this document is to specify the procedure for positive and effective energy isolation.

This is to minimise the risk of uncontrolled movement of equipment or release of energy that could lead to an incident involving actual or potential personal injury, environmental impact or asset damage.

2. SCOPE

This procedure applies to all QUU employees and contractors in QUU controlled workplaces, Contractors are to adhere to the requirements of this procedure unless a contract detailing control of a workplace has nominated a principal contractor other than QUU.

The scope includes;

- protection for persons working on or near systems containing forms of energy, and
- safe return to service of equipment.

The scope does not include;

- Isolation of and access to high voltage assets (refer to High Voltage Isolation and Access Procedure document #003167)
- Practices for live work associated with commissioning or fault finding

Energy Lock Out Tag Out should not be seen as a complete system within itself.

It is a process aimed at eliminating the risks associated with the various sources of energy found on Qld Urban Utilities work sites. Therefore it is a detailed control measure designed to manage a broad range of hazards associated with exposure to energy sources.

In this case, it becomes part of a “safe system of work”.

Thorough assessment of the site and task must be undertaken prior to, during and after isolation.

3. REFERENCES

3.1 EXTERNAL SOURCES

Work Health and Safety Act 2011(QLD)

Work Health and Safety Regulation 2011(QLD)

Queensland Electrical Safety Act 2002

Qld Electrical Safety Regulation 2013

AS/NZS 4836:2011 Safe working on or near low voltage electrical installations and equipment.

AS/NZS 3000:2007 Australian Wiring Rules.

AS/NZS 4024.1201 – 2014 Safety of Machinery general principles for design – Risk Assessment and risk reduction

AS 4024.1603-2006 (R2014) Safety of machinery Design of controls, interlocks and guards - Prevention of unexpected Start Up

Queensland Electrical Safety Code of Practice 2013 – Managing electrical risks in the workplace

3.2 INTERNAL SOURCES

Energy Lock Out Tag Out System Reference Manual REF289

Electrical Safety Management Plan MP71

QUU Risk Assessment Process

Hazard Reporting document FOR76

Permit to Work Standard STD76

Confined Space Entry SWMS2

Working at heights SWMS3

Operating Mobile Plant SWMS4

Excavation, trenching and underground services SMWS 5

Arc Flash Hazard Assessment and PPE Selection WI58

4. DEFINITIONS AND ABBREVIATIONS

4.1 APPROVED

Approved by a suitably qualified QUU Officer.

4.2 AREA DUTY OFFICER

A QUU employee who has authority;

- during normal working hours, or
- outside work hours

to manage or supervise work during an emergency or call out situation.

4.3 AUTHORISED PERSON

Electrical Safety Regulation 2013 Schedule 2 Part 159

An authorised person, for an electric line, means a person who;

- has enough technical knowledge and experience to do work that involves contact with, or being near to, the electric line; and
- has been approved by the person in control of the electrical line to do the work that involves contact with, or being near to, the electric line, or is authorised to act for the person in control of the electrical line.

4.4 AUTHORISED PERSON FOR OTHER FORMS OF ENERGY

An authorised person for other forms of energy is a person who has;

- enough technical knowledge and experience to do the work, and
- has been approved by the person in control of the equipment to do the work that involves exposure to forms of energy, other than electrical energy.

4.5 BARRIER

A physical barrier or means of providing protection against contact with, or exposure to, harmful energy, which;

- provides a guard, or
- defines a space

designed to isolate people from a specific hazard or risk.

4.6 CAUTION/OUT OF SERVICE TAG

A Caution/Out of Service tag (yellow and black) is a tag applied to an equipment lock (yellow) to isolate out of service, faulty or unsafe equipment or components to prevent use or operation.

A Caution/Out of Service Tag is not to be used without an Equipment Isolation lock for isolation and access.

Refer to Appendix 8.2 for the format and layout of the standard QUU Caution/Out of Service Tag.

4.7 COMPETENT PERSON

Electrical Safety Regulation 2013 Schedule 9; and

WH&S Regulation Schedule 19

In relation to a task, means a person who has acquired, through training, qualifications, experience or a combination of these, the knowledge and skill to carry out the task.

Note

Electrical work may only be performed by a person if the person-

(a) Is the holder of an appropriate electrical license authorising the work; or

(b) Is otherwise authorised to perform the work under the Electrical Safety Act

4.8 COORDINATOR

A person whose duties include giving directions to other persons or groups of persons, and to facilitate the accomplishment of work.

For example, during normal work hours, the Area coordinator, Duty Officer or Coordinator.

After normal working hours, the Incident Manager or Standby Officer.

4.9 DE-ENERGISED – ELECTRICAL EQUIPMENT

AS/NZS 4836:2011 s1.6.4 & s2.3.1

Separated from all sources of supply, but not necessarily isolated, earthed or out of commission.

All electrical conductors and parts, including neutrals and earthing conductors shall be treated as energised until proven de-energised.

De-energised does not mean isolated or discharged, or both.

De-energised electrical equipment may still be subjected to other electrical hazards such as induced or capacitive potential.

4.10 OTHER THAN LOTO LOCKS

Locks specifically used for other purposes only, **NOT** to be used for isolation of energy sources or access within the scope of PRO379 Energy Lock Out Tag Out Procedure. An example of an other than LOTO lock is a High Voltage Isolation lock as used by Contractors.

These locks must **NOT** be Red or Yellow in colour.

4.11 DOUBLE BLOCK AND BLEED

A method of operating two or more sequential isolation devices, (double block) and discharging or releasing pressure or vacuum stored within a contained system (bleed, in approved manner), to eliminate the risk of uncontrolled release of pressure or vacuum.

See Appendix 10.4 for example.

4.12 ELECTRICALLY ISOLATED

AS/NZS 4836:2011 s3.2.1

Work shall not be carried out on or near de-energised exposed conductors and parts until an electrical worker has:

- Positively identified the relevant electrical equipment and conductors, their energy sources and the isolation points, and
- Isolated electrical equipment and conductors from all energy sources, and
- Secured the isolation through Lock Out Tag Out,
- Discharged, where necessary, any stored energy. e.g. capacitance, and
- Proven the isolation of all relevant electrical equipment and conductors, and
- Identified the limits of the safe work area.

Isolation from all sources of electrical supply shall be by means of either opening switches, removing fuses or links, opening circuit breakers or removal of circuit connections.

Consideration shall be given to the possibility of circuit wiring of electrical equipment or conductors becoming energised due to any operation of automatic control devices.

Control circuits or control systems (PLC's, emergency stops, control selector switches, programmable controls, etc.) shall not be used as a means of electrical isolation, including remote isolation such as station inhibit from control room.

Consideration should also be given to electrical equipment that may still be subjected to other electrical hazards such as induced or capacitive potential.

4.13 ELECTRICAL ISOLATION DEVICE

AS/NZS 3000:2007 s2.3.2.2

Electrical Isolation device shall comply with the following requirements.

Devices for isolation shall-

(a) Be capable of withstanding an impulse voltage likely to occur at the point of installation, or shall have an appropriate contact gap; and

(b) Not be able to falsely indicate the contacts are open; and

(c) Clearly and reliably indicate the isolating position of the device; and

(d) Be designed and installed so as to prevent unintentional closure, such as might be caused by impact, vibration or the like; and be a device that disconnects all active

conductors of the relevant supply. Single pole devices situated adjacent to one another may be used; and

(e) Be readily available

Where a device for isolation is not capable of interrupting normal load current, suitable measures shall be taken to prevent it operating while carrying current.

Such measures may include interlocking with an associated circuit-breaker or, where the device will only be operated by authorised persons, suitable warning notices.

Where a device for isolation is a switching device it shall be capable of being secured in the open position.

4.14 ENERGY ISOLATION (NON-ELECTRICAL)

Sources of energy, as described in 4.15 ENERGY SOURCES may need to be isolated individually, or in conjunction with other persons and/or isolation points.

Multiple isolation devices may be required to be operated to positively isolate a single piece of plant or equipment.

This may be conducted under the direction or supervision of a LOTO Officer, Authorised Person, Area Duty Officer or Coordinator after a thorough analysis of the task has been conducted.

All non-electrical sources of energy shall be isolated, controlled, secured (and where possible,) dissipated.

All isolation devices for the task must be under direct control of each person involved in the task and have a positive, physical means of preventing;

- Inadvertent operation
- Any unplanned release of material, volume or pressure through failure or defect, remote operation etc.
- Be able to withstand the highest energy levels contained/generated within the system, including impulse, accumulation or capacity/volume.

4.15 ENERGY SOURCES

Is the capacity of a physical system to perform work.

Sources include but are not limited to:

- Electricity (mains, solar, generator, UPS or inverter)
- Fuels (petrol, diesel, gas)
- Heat
- Steam
- Fluids under pressure (water, effluent, air or hydraulic oil)
- Stored energy (batteries, springs, flywheels, accumulators, capacitors, suspended weights, large volumes under gravitational force)
- Gravity
- Radiation (U.V., Radio Frequency)
- Biological hazard

- Chemical

4.16 HAZARD

A hazard is something that has the potential to cause damage or harm.

4.17 INFORMATION TAG

An Information tag (blue) is a tag used to provide information or a message regarding the status or operation of a piece of plant or equipment. The information tag is not a part of the Lock Out Tag Out Procedure to positively isolate energy sources.

This tag must not, under any circumstance, be attached to a Personal (Red) or Equipment (Yellow) lock as a substitute for a Personal Danger tag or a Caution/Out of Service tag.

Refer to Appendix 8.3 for the format and layout of the standard QUU Information Tag.

4.18 ISOLATION LOCKS

Approved locks used for locking out isolation devices of energy sources, to ensure Positive Isolation (4.32) is achieved. These locks shall have a non- conductive plastic body.

These locks are colour coded Red for personal isolation and Yellow for equipment isolation and are defined below.

4.18.1 PERSONAL ISOLATION LOCKS

Locks issued to individuals from QUU that have been labelled with the employee's name or,

- for contractors working under the direction of QUU , a lock consistent with the requirements of this procedure and approved by a QUU Coordinator.

Personal Isolation locks in conjunction with Personal Danger tags must always be used, when a person requires isolation to work on equipment to prevent the inadvertent operation of an isolation device.

These locks are included in the QUU Personal Isolation Lock Kit issued to trained and authorised persons.

These locks are used when;

- undertaking individual isolation of equipment at single or up to 5 isolation points, and are applied directly to the isolation device, or
- undertaking work under group isolation using equipment isolation locks (more than 5 isolation points or as it is deemed necessary) and are applied to the group lock box/folder.

Refer to Appendix 8.6 for an image of the standard QUU Personal Isolation Lock and Appendix 10.1 for example of use of Personal Isolation Lock.

These locks are **Red** in colour and are issued with a single key per group of 5 locks to persons performing personal isolations.

4.18.2 EQUIPMENT ISOLATION LOCKS

Are locks used in Group Isolation with a Group Lockbox (4.23) or Group Lock Out Folder (4.24) and when equipment is required to be removed from service. Equipment Isolation locks shall also be used to maintain isolation when a personal lock owner is required to leave site or the personal lock owner is no longer working on the asset and isolation is to be maintained.

The Equipment Isolation Lock (Yellow) must be accompanied by a Caution/Out of Service Tag, to provide the relevant information as shown in Appendix 8.2

Refer to Appendix 8.7 for an image of the standard QUU Equipment Isolation Lock and Appendix 10.2 for example of use of the Equipment Isolation Lock.

These locks are **Yellow** in colour and are each uniquely keyed.

4.19 ISOLATION REGISTER

A record of all relevant information regarding the energy sources and isolation devices operated to provide safe access to plant or equipment. All persons attaching personal locks and personal danger tags are responsible for checking that all sources of energy and required isolation points are identified and recorded on the isolation register.

4.20 LIVE ELECTRICAL PARTS

Electrical Safety Code of Practice 2013 Managing electrical risks in the workplace Appendix A

Energised (live) means connected to a source of electrical supply or subject to hazardous induced or capacitive voltages.

This includes a neutral conductor and conductive parts connected to a neutral conductor.

4.21 LOTO OFFICER

Is a person who:

- Is competent in the use of the QUU lock out tag out system,
- Has detailed knowledge of the equipment to be isolated,
- Is nominated on the Isolation Register as the LOTO Officer controlling the isolation activity.

4.22 GROUP – LOCKOUT

Where a specific work area has a requirement for;

- a person to lock out multiple sources of energy(more than 5), or
- more than one person is to lock out 5 or less sources of supply and it is not practicable to attach multiple hasps, or
- a number of people to lockout more than 5 sources of energy

The process requirements for isolation for such areas are detailed in this document.

4.23 GROUP LOCK BOX

A secured lock box, under the control of each worker working on the asset requiring isolation, which contains the keys for the Equipment Isolation Locks for a specific area or piece of equipment.

The group lock box is a secure isolation measure used in group lockout situations with Equipment Isolation Locks and Caution/Out of Service tags being placed on individual devices. Isolation points shall be documented on an Isolation Register.

Refer to Appendix 8.8 for an image of the standard QUU Group Lock Box.

4.24 GROUP LOCK OUT FOLDER

A group-lockout isolation folder is a robust, durable folder or similar, that;

- can be retained on a remote site (street pump station or similar) in the switchboard for example, and

- will contain the work documents for that task, e.g. risk assessment, isolation register, work order, Permit To Work etc., and
- secure the key for the Equipment Isolation Lock

This folder will have provision for attaching relevant Isolation Locks according to the task status;

- Personal Isolation Locks whilst workers on site, or
- Equipment Isolation Lock whilst site is vacant and isolation is to be maintained, or
- Equipment Isolation Lock whilst site is an isolation point forming part of a group isolation.

Refer to Appendix 8.9 for an image of the standard QUU Multi-Lockout Isolation Folder.

4.25 MULTI – PADLOCK HASP

A device that accepts a number of Personal Isolation Locks to secure a device.

This device will be required where multiple people secure isolation of a source of energy.

It may be attached to each individual isolation device, when 5 or less isolation points are required to be secured by more than one person, or used with a group lock box when no more lock attachment points are available.

Refer to Appendix 8.4 for an image of the standard QUU Multi Padlock Hasp.

4.26 PERSON IN CONTROL OF ELECTRICAL EQUIPMENT

Electrical Safety Act 2002 s24

The person in control, of electrical equipment, is the person who controls the electrical equipment.

This may vary according to;

- the location of the equipment,
- the time of day the work is being conducted

4.27 PERSON CONDUCTING BUSINESS OR UNDERTAKING

WH&S Act 2011 s19(1)

A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of—

(a) workers engaged, or caused to be engaged by the person; and

(b) workers whose activities in carrying out work are influenced or directed by the person;

while the workers are at work in the business or undertaking.

4.28 PERSON WITH MANAGEMENT OR CONTROL OF A WORKPLACE

WH&S Act 2011 s20(2)

The person with management or control of a workplace must ensure, so far as is reasonably practicable, that the workplace, the means of entering and exiting the workplace and anything arising from the workplace are without risks to the health and safety of any person.

4.29 PERSONAL DANGER TAG

A tag (red and white) specifically used for Personal Isolation purposes.

A Personal Danger Tag shall be attached to a personal isolation lock for an isolation to indicate the lock owner and that the isolation device shall not be operated.

A Personal Danger Tag must be attached in the approved manner to ensure it cannot be inadvertently removed from the personal lock. Attachment of the tag by the use of a cable tie is acceptable.

Refer to Appendix 8.1 for the format and layout of the standard QUU Personal Danger Tag.

4.30 PERMIT TO WORK

The QUU Permit to Work is an administrative tool managed by designated QUU Control Centres to record, authorise and schedule work.

4.31 POSITIVE ISOLATION HARDWARE

Refers to hardware that permits the attachment of Isolation locks and tags to isolation devices such as, valves, fuses, circuit breakers, electric leads and plugs to ensure positive isolation. A range of devices are usually required to be available to allow for the attachment of Isolation Locks and tags, due to the different types and makes of isolation points.

4.32 POSITIVE ISOLATION

Positive isolation must be proven at each isolation device prior to commencing work and must comply with the requirements of 4.12, 4.13, and 4.14.

Positive isolation can only be achieved by securing an isolation device so that unauthorised or inadvertent operation is prevented.

Tags are not a means of physically securing an isolation device, they are a means of communication on the status of the device.

As defined in AS/NZS 4024 – 2014 Safety of Machinery

- Part 1201 General Principles for design – Risk assessment and risk reduction 6.3.5.4 (b); and
- Part 1603 Design of controls, interlocks and guards - Prevention of unexpected start-up 6.2 & 6.4

"*Locking (or otherwise securing) all the isolating units in the isolated position".*

All points of isolation must be recorded on the Isolation Register.

4.33 P.P.E.

Means personal protective equipment provided by the employer with instruction in its correct selection, use and maintenance.

Whilst all Qld Urban Utilities sites have a minimum requirement for P.P.E., it must be considered that additional P.P.E. may be required for a specific task or site, to provide an adequate level of protection.

This may be identified by a thorough site specific Risk Assessment.

4.34 PROSPECTIVE ENERGY LEVELS

This identifies the highest level of any energy that may be contained or can be generated within a system.

This includes, but is not restricted to;

- electrical, including fault currents, capacitive potential, induction
- hydraulic pressures
- pneumatic pressures
- volumes or weights

Consideration should also be given to the potential for accumulation, impulse or surge.

4.35 Q-PULSE

A Qld Urban Utilities integrated management system that has the ability to record and track non-conformances.

4.36 SAFETY OBSERVER

Electrical Safety Reg. 2013 Schedule 9

Generally for electrical work, means a person who-

- is competent to implement control measures in an emergency; and
- is competent to rescue and resuscitate a worker who is carrying out the work, if necessary; and
- has been assess in the previous 1 year as competent to rescue and resuscitate a person; or

for the operation of operating plant, means a person who-

- observes the operating plant; and
- advises the operator of the operating plant if it is likely that the operating plant will come within an exclusion zone for the operating plant for an overhead electric line

4.37 TOTAL ISOLATION

Total isolation means ensuring that ***Positive Isolation (4.32)*** has been achieved at all relevant isolation points for each energy source that may cause a hazard during the course of the task.

4.38 STANDARD ISSUE QUU ENERGY ISOLATION EQUIPMENT

The following items are available in the QUU stores system for QUU staff required to perform energy isolations:

- QUU single use Personal Danger tags.
- QUU single use Caution/Out of Service tags.
- Multi padlock hasp.
- Personal Isolation locks. 5 (five) keyed alike red locks that are keyed differently to every other group of 5 locks. Issued to the lock owner with **1** key only.
- Equipment Isolation locks. Yellow locks, each lock differently keyed to any other lock.
- Fabric kitbag to accommodate isolation hardware.

Other isolation hardware may be purchased to suit individual locations and equipment, for example group lockout boxes or lockout folders. Contact your team leader if this additional isolation hardware is required.

Refer to Appendix 8 for images of the QUU isolation hardware.

4.42 TRAINING

Training as defined in a QUU Training Plan, consisting of:

- Awareness training for new QUU employees delivered during induction.
- Competency based training recognised and authorised by QUU for any persons required to perform isolations at QUU sites or support team members who perform isolations (team leaders).

4.43 VALID ISOLATION

A valid isolation is where an Isolation Lock and tag is attached to an isolation point. It is not permitted to only apply a tag to an isolation device as a means to affect positive isolation. All isolations shall comprise of a Lock and completed Tag. For example a valid personal isolation requires the lock owner to attach his/her lock and completed personal danger tag to every isolation point in a single person, 5 or less isolation point scenario.

For equipment and group isolations a valid isolation shall have an Equipment Isolation Lock **and** a completed Caution/Out of Service tag attached to each isolation point.

4.44 VOLTAGE

As defined in AS/NZS 3000:2007 Clause 1.4.98. Differences of potential normally existing between conductors or between conductors and earth as follows:

(a) Extra-low voltage: Not exceeding 50 V a.c. or 120 V ripple-free d.c.

(b) Low voltage: Exceeding extra-low voltage, but not exceeding 1 000 V a.c. or 1 500 V d.c.

(c) High voltage: Exceeding low voltage.

5. RESPONSIBILITIES / OBLIGATIONS

5.1 OBLIGATIONS OF PERSONS

For Work Health & Safety duties, refer to;

- Work Health and Safety Act 2011; and
- Work Health and Safety Regulation 2011

For Electrical Safety obligations, refer to;

- Electricity Safety Act 2002; and
- Electricity Safety Regulation 2013.

5.2 RESPONSIBILITY OF ALL PERSONS

It is the responsibility of every QUU employee and QUU controlled contractor performing isolation activities to follow this procedure.

Failure to follow this procedure is a breach of legislative requirements and QUU Policy and may result in disciplinary action.

5.3 ROLE RESPONSIBILTIES

Manager

- Establish a training plan to ensure that all relevant employees are trained in theory and practical components of LOTO activities.
- Ensure that records are maintained of training activities.

- Equipment used is in accordance with regulations and service records are maintained.
- Ensure that time and budgets are made available for appropriate training and LOTO equipment.
- Ensure the implementation of this procedure in their area of control and that supervision of persons in the workplace is in place to provide compliance.

Supervisor

- Conduct workplace inspections on a frequent basis to ensure compliance and adequacy of LOTO practices in their area of control.
- Ensure that when LOTO has not been able to be applied and the issue is escalated to the supervisor, work is not undertaken until section 6.2.4.1 is complied with.
- Conduct a regular review of the safety controls on work sites.
- Ensure that resources are available to support the implementation of this procedure.
- Ensure regular Work Health & Safety local inspections are conducted.

Worker

- Monitor and ensure that the requirements listed in this procedure are being adhered to while carrying out their work activities.
- Report hazards or incidents to the Supervisor.
- Where LOTO has not been able to be applied for a work activity requiring LOTO, do not undertake the work activity until the supervisor has ensured section 6.2.4.1 of this procedure is complied with.
- Participate in activities and investigations designed to improve safety.

LOTO Officer

- Verifies and approves the method of isolation documented on the lockout register for the isolation of equipment.
- Attaches his or her personal lock and danger tag to a group lock box or folder to control an isolation.
- Has consulted with the person in charge of the equipment in relation to the isolation required.
- Arranges for the handover of control of the isolation to another LOTO Officer or to the person in control of the equipment.

5.4 DISCIPLINARY ACTION

Removal of Personal Danger tags and/or Personal Isolation locks, or the unauthorised removal of Equipment Isolation Locks and/or Caution/Out of Service tags and/or failure to follow correct isolation procedures has the potential to cause serious injury or death, serious equipment or environmental damage.

Individuals found to have removed another person's Personal Danger Tag or Personal Isolation Lock, or Equipment Isolation Lock and/or Caution/Out of Service tag, without authorisation as defined in 6.2.11 EXCEPTIONS TO REMOVAL OF PERSONAL DANGER TAGS AND PERSONAL ISOLATION LOCKS and 6.2.12 REMOVAL OF EQUIPMENT ISOLATION LOCKS

AND CAUTION/OUT OF SERVICE TAGS IN A GROUP ISOLATION, may be subject to disciplinary action as outlined below.

Disciplinary action may include:

- Qld Urban Utilities internal disciplinary action
- Demotion, suspension or dismissal.

Work Health and Safety Legislation and Electrical Safety Legislation may also impose penalties for breaches under the respective Acts or Regulations.

6. ACTIONS

6.1 GENERAL SAFETY PRECAUTIONS

All equipment shall be assumed to be hazardous until;

- all sources of energy to the equipment has been positively isolated in an approved manner, and
- isolation effectiveness has been tested and proven, or inspected and confirmed, in an approved manner to provide positive and total isolation, and
- all isolation points have been clearly identified to all members of the work crew, and
- appropriate procedures for dissipating or restraining all stored energy sources have been conducted, and
- all isolation devices have been verified on the Isolation Register and signed by LOTO Officer, and
- For Group Isolation with more than one worker, a competent person nominated by the LOTO Officer shall also observe, test or verify the isolation along with the person performing the isolation.
- a risk assessment has been conducted to confirm site is safe to access.
- Where distance between isolation points, time or manpower effectiveness is an issue, a person deemed competent by a LOTO Officer/person in control, may be chosen to operate and isolate each isolation device and apply an Equipment Isolation Lock under a group isolation, as detailed in 6.2.6, on behalf of each worker.

At ALL times, personal safety shall be regarded as having the highest priority.

6.1.1 RISK ASSESSMENT

All tasks undertaken involve some level of risk.

These tasks must be assessed for all potential hazards and risks and control measures implemented before commencing work.

The hierarchy of control measures states that where possible;

- **Eliminate** the risk, if not, then
- **Substitute** with one of lesser risk, if not, then
- **Isolate** the risk from person who may be at risk, if not, then
- **Engineering** as a means of protecting persons at risk, if not, then

- **Administrative** means documentation - signs
- **PPE** (Personal Protective Equipment)

Prior to starting any work a person must first confirm if a Work Instruction or Procedure exists, e.g. Safe Work Method Statement SWMS.

If this is the case, the worker shall follow the instruction or procedure once a Risk Assessment (in consultation with all other workers) has confirmed the site and task are safe to proceed AND shall remain safe.

If no instruction or procedure exists, the worker shall first consult with their coordinator, then if authorised, proceed with the following.

A Risk Assessment in conjunction with a SWMS (in consultation with all other workers) shall be conducted prior to starting work. All risk assessments shall consider secondary sources of energy that may impact on the site safety and address those identified.

The signed off copies of the Risk Assessment and SWMS upon completion of the task shall then be forwarded to the appropriate supervisor for registration on the document management system.

6.1.2 IDENTIFY THE EQUIPMENT

Prior to commencing work, a worker shall identify;

- the 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

Each person involved in the task requiring positive isolation shall ensure the Isolation Register is completed and correct before commencing work.

6.1.3 ARC FLASH HAZARD ASSESSMENT AND PPE SELECTION

All workers approaching and accessing LV and HV electrical equipment for either operational or maintenance activities (including isolation and inspection) shall ensure adequate steps for personal protection from possible electrical arc flash and touch voltages are taken into account.

All workers shall comply with WI58 Arc Flash Hazard Assessment and PPE Selection.

6.1.4 ISOLATION CONFIRMATION

It is the responsibility of the person/s performing isolation to confirm, by the safest means available, that the isolation is;

- Positive and total, and
- Tested and proven, or inspected and confirmed, as such, and
- Verified on the Isolation Register, and
- Clearly identified to all workers, and
- Locked out and tagged out with each worker's Personal Isolation Lock and Personal Danger tag under personal isolation or isolated by group isolation using an Equipment Isolation Lock and Caution/Out of Service tag under the direct control of

a Personal Isolation Lock and Personal Danger tag attached to the relevant Group Lock Box/Folder.

The LOTO Officer, prior to the starting of work under isolation, shall personally perform or witness the identification, isolation, testing or verification of the isolation and complete the Isolation Register. For group isolations an additional competent person shall check the steps of isolation and confirm the LOTO Officer's verification of the Isolation Register.

6.1.5 ISOLATION REGISTER

The purpose of the Isolation Register is to;

(1) provide workers with clear identification and information regarding all isolation devices currently under isolation.

(2) document;

- each energy type, source and potential
- the type of and location of each isolation device
- the method of isolation
- if locked out and tagged out
- who verified the isolation and security of each device
- time and date of each verification,
- who removed the isolation
- time and date of each removal

(3) record the security of all isolation points during works being undertaken, and

(4) provide a means of transferring control of isolation to another person, e.g. change of shift, without degrading or negating the security of isolation.

(5) provide a means of auditing the procedural compliance.

The Isolation Register shall be secured to the Group Lock Box, or Group Lock Out Folder, along with other task related documents (PTW, Risk Assessment, Work Order), under the control of the LOTO Officer or the person in control of site when the LOTO Officer hands over control of isolation and removes his/her personal lock and tag from the lock box/lock out folder.

Copies of all completed isolation registers shall be forwarded to the person in control of the work place for recording and auditing at the completion of the task.

6.2 USE OF PERSONAL DANGER TAGS AND PERSONAL ISOLATION LOCKS

6.2.1 BASIC PRINCIPLES

Personal Isolation Locks and their attached Personal Danger Tags are the minimum requirement for isolation devices under this procedure, and must be used wherever a means of securing the device through application of a lock is possible.

6.2.2 PERSONAL DANGER TAGS

Personal Danger Tags are permitted only to be attached to Personal Isolation Locks to indicate the lock owner and that operation of the device or equipment will place the individual at risk.

Personal Danger Tags shall be attached to Personal Isolation Locks by a means substantial enough to prevent inadvertent or accidental removal; the use of a cable tie is acceptable. The use of insulation tape to attach a tag is not permitted.

6.2.3 RESPONSIBILITY FOR PLACEMENT OF PERSONAL ISOLATION LOCKS AND DANGER TAGS

A person in control of equipment, or an authorised person, may identify and operate an isolation device (switch, circuit breaker, valve, etc.).

The person performing the work under isolation is responsible for ensuring their Personal Isolation Locks and Personal Danger Tags are fitted in the approved manner to secure isolation.

6.2.4 ISOLATION OF EQUIPMENT

Personnel required to isolate equipment at a QUU site shall be issued with 5 (five) Personal Isolation Locks (Red) and a number of Personal Danger Tags.

It is the responsibility of the person performing the work to ensure that ***Positive Isolation (4.12, 4.13, 4.14)*** is complete, and that ***Total Isolation (4.37)*** has been achieved.

This includes the obligation that once isolated, the person shall;

- carry out an inspection of all isolation points directly, OR by confirmation on the isolation register, and
- confirm that no other isolation points are required for primary or secondary energy sources, and
- carry out tests or inspections to prove or confirm isolation is positive and total, and
- carry out tests or inspections to prove or confirm all stored energies isolated, have been dissipated or secured, and
- ensure the site is, and shall remain, safe.

The **Personal Danger Tag** shall display the following information, clearly written;

- Legibly printed name
- Signature
- Date
- Time
- Reason
- Phone number (if applicable)
- Permit to work number (if applicable)

No person shall attempt to start or operate any plant or equipment that is the subject of isolation once the isolation has been proven to be effective.

6.2.4.1 ISOLATION OF EQUIPMENT EXCEPTIONAL CIRCUMSTANCES

If an Isolation Lock cannot be attached to an isolation device, securing the device in a safe position, the person shall not proceed with the task until the person reports the situation to their supervisor for further advice and authorisation to implement the following;

- Re-assesses and identify alternative means of obtaining positive and total isolation and securing the devices or means of isolation.

Example 1: an electrical worker removes conductors from the isolation device to prevent inadvertent connection to supply via the isolator.

Example 2: A lockable shroud, bag or cable lockout is applied to a valve to provide positive isolation.

- Not commence work until testing or verification of the isolation proves positive and total isolation is achieved.

Once the task has been completed;

- Reports in writing as a hazard or defect for future action to install a means of locking out the isolation device,

6.2.5 PERSONAL ISOLATION

Under no circumstances shall any person carry out work under another person's isolation.

If an isolation that requires 5 or less isolations is to be carried out it may be performed under Personal Isolation. Personal Isolation Locks and Personal Danger Tags shall be used where 5 or less isolations are required, and recorded on the Isolation Register. Where more than 5 isolations are required, or it is deemed necessary, the person shall use Equipment Isolation (Yellow) Locks under Group Isolation as detailed in 6.2.6.

Where multiple persons will be working on the task a hasp shall be attached to each isolation point to allow all personnel working on the task to attach their red personal isolation locks and danger tags to each isolation point.

Personal Isolation Process

The personal isolation process is as follows:

1. The equipment to be isolated is identified
2. Ensure there is a relevant Risk Assessment for the task.
3. The person in control of the equipment is consulted and where available as built drawings are used to identify all energy sources. Confirm isolation points and means of securing with person in control and obtain their authorisation to proceed with isolation.
4. Isolate points as per isolation register and confirm all isolation points are effectively secured and test or verify for total isolation
5. Record all the details on the Isolation Register.
6. Ensure where multiple people are working on the task that a hasp is attached to every isolation point.
7. Personal Isolation Locks and Personal Danger Tags are attached to the isolation points and the isolation register is completed.

See Flowchart 9.2 – Personal Isolation - Apply Lock Out Tag Out

The Isolation Register shall be kept with the other works documents.

6.2.6 GROUP ISOLATION

Any isolation that requires more than 5 isolations, or where it is deemed necessary, will be conducted using Equipment Isolation Locks (Yellow) and recorded on the Isolation Register under a Group Isolation. The keys from the Equipment Isolation Locks shall be secured inside a Group Lock Box/ Folder and each person working on the task shall attach their Personal Isolation Lock and Personal Danger Tag to the Group Lock Box/Folder.

Group Isolation Process

The Group Isolation Process is as follows:

Where LOTO is yet to be applied:

1. The equipment to be isolated is identified
2. Ensure there is a relevant Risk Assessment for the task.
3. The person in control of the equipment is consulted and where available as built drawings are used to identify all energy sources. Confirm isolation points and means of securing with person in control and obtain their authorisation to proceed with isolation.
4. Record all the details on the Isolation Register.
5. Request the LOTO Officer or person in control to provide Equipment Isolation Locks (Yellow), Caution/Out of Service Tags and Group Lock Box/Lockout Folder to secure the isolation process
6. Isolate points as per Isolation Register and confirm all isolation points are effectively secured and test or verify for total isolation
7. Equipment Isolation Locks and Caution/Out of Service Tags are attached to the isolation points and the Isolation Register is signed off by a LOTO Officer and also witnessed and signed off by a competent person.
8. The keys from the Equipment Isolation Locks are placed inside the Group Lock Box/Folder.
9. All personnel required to perform work on the task shall now attach their red Personal Isolation Lock and Personal Danger Tag to the Group Lock Box/Folder.

Where LOTO has been applied

1. Consult with the LOTO Officer, Coordinator or person in control to confirm isolation points as detailed in the Isolation Register and
2. Attach Personal Isolation Lock and Personal Danger Tag to Group Lock Box/Lockout Folder.

Note: It is allowable to apply 6.2.6 Group Isolation on less than 5 isolation points if it is more efficient and practicable to do so e.g. large distances between 3 isolation points make it impractical for every member of the work party to visit each isolation point a Group Isolation can be applied.

The Group Lock Box/Folder shall be the location for the works documents (Risk Assessment, Isolation Register, Permit To Work etc.) to be retained for the course of the task.

See Flowchart 9.3 – Apply Lock Out Tag Out – Group Isolation

6.2.7 REMOVAL OF PERSONAL ISOLATION LOCKS AND PERSONAL DANGER TAGS

Each person shall only remove their own Personal Danger Tags and Personal Isolation Locks.

The only exceptions are outlined in 6.2.11 EXCEPTIONS TO REMOVAL OF PERSONAL DANGER TAGS AND PERSONAL ISOLATION LOCKS**.**

6.2.8 UNAUTHORISED REMOVAL OF PERSONAL DANGER TAGS AND/OR PERSONAL ISOLATION LOCKS

Any unauthorised removal of another person's Personal Danger Tag or Personal Isolation Lock may result in disciplinary action as outlined in 4.3.

Authorisation will only be in accordance with 6.2.11 of this document.

6.2.9 WORK INCOMPLETE – PERSONAL ISOLATION

If a person (where either working alone or the last person in a work group) leaves the work area and the equipment is still out of service for any reason they shall;

- Conduct necessary tests and/or inspections to ensure the site shall remain safe, in their absence without Personal Isolation Locks and Personal Danger Tags and
- Replace their Personal Isolation Locks and Personal Danger Tags with Equipment Isolation Locks and Caution/Out of Service Tags and
- Test for or confirm positive isolation and
- Arrange the management of the Equipment Isolation Lock/s key/s with the LOTO Officer or person in control. This may be at the asset location or a central point. Details of key location are to be recorded on the associated Caution/Out of Service Tags
- Update the Isolation Register.

Both the worker and the LOTO Officer/person in control of the equipment shall sign off the transfer of control of the isolation on the Isolation Register where in-person hand over can occur. Where the person in control or LOTO Officer are off site, the worker is to record the name of the LOTO Officer or person in control after prior arrangement by phone for hand over.

If at a remote site, the Isolation Register may be located at the primary Isolation point.

6.2.10 WORK INCOMPLETE-GROUP ISOLATION

In the event of a Group Isolation and the task is not completed, before the LOTO Officer/person in control removes their Personal Danger Tag and Personal Isolation Lock, they shall;

- Advise remaining workers he/she is vacating the work area and their intention to remove his/her Personal Danger Tag and Personal Isolation Lock, and
- Confirm with other workers and the Lockout Officer/person in control, that the Lockout Officer/person in control shall maintain or take control of the isolation through the use of their Personal Isolation Lock(red) and Personal Danger tag if they are working under the isolation, **or** the LOTO Officer/person in control ensures attachment of an Equipment Isolation Lock(yellow)and Caution/Out of Service tag and retains the single unique key to ensure control of the isolation up to and after all Personal Isolation Locks and Personal Danger tags have been removed, and
- Remove his/her Personal Isolation Lock and Personal Danger Tag, and
- Completes the Isolation Register transfer as required.

The last person to remove their Personal Isolation Lock and Personal Danger tag is responsible to confirm that the person in control of the equipment, or the Lockout Officer, has placed their Personal Isolation Lock and Personal Danger Tag to maintain isolation or has attached an Equipment Isolation

Lock and Caution/Out of Service tag on the Group Lock Box/Folder, prior to removing their own Personal Isolation Lock and Personal Danger Tag.

They will also ensure both persons sign off the transfer of control of the isolation on the Isolation Register where in-person hand over can occur. Where the LOTO Officer/person in control is located off site, the worker shall arrange by phone the hand over and record the name of the LOTO Officer/person in control on the isolation register.

The Isolation Register shall be located with the Group Lock Box.

Where control of the isolation needs to be transferred to another person due to change of shift etc, and face to face handover is not reasonably practicable, the following are acceptable means of transferring control after the attachment of an Equipment Isolation lock and Caution/Out of Service tag detailing the circumstances of the isolation;

- Retention at asset location of Equipment Isolation Lock key with attached Caution/Out of Service tag, detailing circumstances and isolation point, with site LOTO register **or** return of key and attached Caution/Out of Service tag to a central point of control under local secure key management arrangements and any of the following;
- Mobile phone call with complete exchange of information, or
- Voice mail message, or
- Text message

PROVIDED arrangements for this to occur have been made prior to vacating the site.

6.2.11 EXCEPTIONS TO REMOVAL OF PERSONAL DANGER TAGS AND PERSONAL ISOLATION LOCKS

Where a person has placed a Personal Isolation Lock and Personal Danger tag on a piece of equipment and has left the workplace without maintaining isolation with a lock swap to an Equipment Isolation Lock and attached Caution/Out of Service tag, the following steps shall be followed and documented.

(1) All attempts shall be made to contact the owner of the Personal Danger tags/Personal Isolation locks to determine if the isolation is still required.

(2) If the isolation is no longer required, the lock owner shall be directed to return to the workplace to remove their Personal Danger tags and Personal Isolation locks from the equipment.

(3) Where a person has placed and left Personal Danger tags/Personal Isolation locks and it is confirmed that they are not available to remove the isolation, the LOTO Officer/person in control of the workplace (4.28) shall perform the following.

(4) The LOTO Officer/person in control must ensure the person whose name is on the Personal Danger tags/Personal Isolation locks is not available on site and if contact with the lock owner was not possible, that every practicable measure is taken to prevent the lock owner's return to site until contact with the lock owner has been made.

The LOTO Officer/person in control shall investigate the isolation including the area where the person was working to ensure persons, assets and the environment are and shall remain safe while isolation is maintained with a lock swap to Equipment Isolation Locks or where Personal Isolation Lock and Personal Danger Tag removal and re-instatement of the asset/s is required.

(5) The LOTO Officer/person in control shall consult with the relevant Manager and seek written approval to remove the Personal Danger tags/Personal Isolation Locks and replace them with Equipment Isolation Locks and Caution/Out of Service tags to ensure isolation and control of the asset/s where isolation is required to be maintained. Where energisation

and re-instatement of the asset is required the LOTO Officer/person in control shall seek written approval to remove the Personal Isolation Lock and Personal Danger tag.

(6) If written approval is given, Personal Isolation Locks/Personal Danger tags may be removed and testing for safe operation conducted to re-instate assets. Where isolation is to be maintained and control of the assets assured, Equipment Isolation locks and Caution/Out of Service tags are to be attached in place of the removed Personal Isolation Locks and Personal Danger tags. After the lock swap the LOTO Officer/person in Control shall ensure testing for total isolation is performed. The circumstances relating to the removal of the Personal Isolation locks/Personal Danger tags must be recorded as an incident on QUU's incident report Form74 and recorded in Q Pulse. The relevant Branch Manager shall be advised as soon as possible.

(7) If written approval is not given to remove Personal Danger tags/Personal Isolation Locks, the isolation shall remain in force until a resolution is reached.

Any removed tags, locks and documentation must be retained as evidence for further investigation. Written approval may take the form of a text message after consultation between the LOTO Officer/person in control and the Section/Incident Manager.

(8) The person who failed to remove their Personal Danger tags/Personal Isolation locks shall on returning to work be interviewed to determine potential further action.

6.2.12 REMOVAL OF EQUIPMENT ISOLATION LOCKS AND CAUTION/OUT OF SERVICE TAGS IN A GROUP ISOLATION

This section applies to the use of Equipment Isolation locks and Caution/Out of Service tags in a group isolation or handover and **does not** apply to the attachment of an Equipment Isolation lock and Caution/Out of Service tag to faulty equipment as detailed in 6.3.4.

An Equipment Isolation Lock and Caution/Out of Service Tag can only be removed after the last person has removed his/her Personal Isolation lock and Personal Danger tag from a Group Lockbox/Group Lock Out Folder **or** when a LOTO Officer/person in control accepts a hand over, as detailed in an Isolation Register, by the use of an Equipment Isolation Lock and Caution/Out of Service tag as detailed in 6.2.9 and 6.2.10.

The remover of the Equipment Isolation Locks and Caution/Out of Service tags shall be the LOTO Officer. The last person to remove his/her Personal Isolation Lock and Personal Danger tag from the Lockbox /Lock Out Folder shall be the LOTO Officer unless stated otherwise on the Isolation Register.

If the Equipment Isolation Lock key is lost or no longer under effective control, the person in control of the equipment shall nominate a LOTO Officer to investigate the circumstances of the isolation to ensure the following;

- The safety of any work, process, isolation or permit is not compromised by the removal and return to service of the equipment or,
- Where isolation is to be maintained to ensure the safety of persons and property, the LOTO Officer shall cut off and replace the Equipment Isolation lock and Caution/Out of Service tag and locate the new Equipment Isolation Lock key as directed by the person in control.

6.3 USE OF CAUTION/OUT OF SERVICE TAGS AND EQUIPMENT ISOLATION LOCKS

6.3.1 BASIC PRINCIPLES

A Caution/Out of Service tag (yellow and black) is applied to all out of service equipment and components but never used without an Equipment Isolation Lock (yellow) for positive

isolation. For positive isolation requirements for single, group isolation or isolation hand over, refer to section 6.2 .

Any person may apply a Caution/Out of Service tag to any equipment which they believe may cause harm if operated, provided they follow the procedure for reporting the issue, as detailed in the QUU staff induction.

Where there is a risk of injury to workers or equipment damage if faulty equipment is inadvertently used by connection to a source of energy, positive isolation shall be applied by the attachment of an Equipment Isolation Lock and Caution/Out of Service tag. This can be achieved by the use of lockable shrouds for electrical equipment if connected to supply by flexible lead and plug or attachment to an isolator or circuit breaker if permanently wired electrical equipment. Valves or stopcocks shall be positively isolated with Equipment Isolation Locks and Caution/Out of Service tags for other sources of energy such as compressed air, hydraulics or fluids.

This may include faulty or unsafe **(defective)** equipment that may cause harm if operated, for example;

- office furniture in unsafe condition (chairs with broken supports),
- poorly loaded or sagging bookshelves,
- Damaged electrical equipment (arc welder with frayed leads),
- vehicles or trailers with under pressure tyres or other defects,

A Caution/Out of Service Tag on its own will not provide specific personal protection as it can be readily removed by others and the equipment placed back into service. Positive isolation for equipment connectable to sources of energy or the secure withdrawal from service for non-powered equipment will prevent the inadvertent use of faulty equipment.

A Caution/Out of Service Tag shall be attached by a means substantial enough to prevent inadvertent or accidental removal; the use of a cable tie is acceptable.

Caution Out of Service Tags must not be used on their own for positive isolation in group isolation or isolation hand over scenarios without an Equipment Isolation Lock (Yellow) attached.

6.3.2 PLACEMENT OF A CAUTION/OUT OF SERVICE TAG AND EQUIPMENT ISOLATION LOCK

Whenever a person has identified defective equipment that connects to a source of energy, they shall remove the equipment from service and attach a Caution/Out of Service tag and Equipment Isolation Lock under the requirements of 6.3.3. Equipment that does not connect to sources of energy, such as office chairs, are to be securely removed from service and have a Caution/Out of Service tag attached.

Print legibly the following information on the Caution/Out of Service Tag:

- Printed name.
- Signature.
- Date.
- Time.
- Reason.
- Phone number (if applicable)
- Permit To Work Number(if applicable)

6.3.3 GUIDANCE FOR REMOVAL FROM SERVICE OF DEFECTIVE EQUIPMENT

Where tagging and/or positive isolation of defective equipment is necessary, the following checks must be made before commencing removal from service.

The worker shall confirm with the person in control of the equipment;

- That the equipment can be safely removed from service, and
- The safest method of removal from service, and
- That other associated equipment will not create further damage or injury if operated, and
- That the removal from service will not have a detrimental impact on other equipment.

They shall then;

- Remove the equipment from service and attach a Caution/Out of Service tag and Equipment Isolation Lock to a lockable shroud or isolation device for positive isolation of equipment connected to sources of energy, or for equipment not connectable to sources of energy attach a Caution/Out of Service tag and securely remove from service.
- Notify the person in control of the equipment it has been removed from service, and
- Document where required.

6.3.4 REMOVAL OF EQUIPMENT ISOLATION LOCK AND CAUTION/OUT OF SERVICE TAG ATTACHED TO FAULTY EQUIPMENT.

This section **does not** apply to Equipment Isolation Lock and Caution/Out of Service Tag removal for group isolation applications, refer to 6.2.12.

After repair, examination and confirmation the equipment is fit for purpose, a Caution/Out of Service tag and Equipment Isolation Lock may be removed.

Removal of an Equipment Isolation Lock and/or a Caution/Out of Service tag is restricted to the following persons:

- The person who has ensured the equipment is fit for purpose, or
- The person in control of the equipment, or a responsible person authorised by the person in control of the equipment, or
- Persons completing repairs to ensure the equipment is fit for purpose.

After removal, Caution/Out of Service tags must be destroyed and disposed of responsibly.

6.4 USE OF INFORMATION TAGS

6.4.1 BASIC PRINCIPLES

An Information Tag is used to provide information to other persons regarding the status of plant and/or equipment. For example information such as a switch is to be positioned in the automatic not manual setting.

An Information Tag **must not**, under any circumstance, be used as a substitute for a Personal Danger tag or a Caution/Out of Service tag in a positive isolation application as detailed in sections 6.2and the removal of service of faulty equipment detailed in section 6.3.

An Information Tag shall be attached by a means substantial enough to prevent inadvertent or accidental removal; the use of a cable tie is acceptable.

An Information Tag may be used in situations where a piece of plant or equipment;

- is required to be operated in a manner particular to a specific requirement (export or island, remote or local, automatic or manual) or;
- Coordination with other plant or processes is desired and instruction is required(duty cycles or sequences of commissioning)or;
- Specific information such as control room or operator contact details for change of operational settings or;
- Condition monitoring or diagnostic information (recording of noise/vibration or faults reset).

6.4.2 PLACEMENT OF AN INFORMATION TAG

Where information regarding plant or equipment needs to be conveyed to other persons, they shall attach an Information tag.

Print legibly the following information on the Information Tag:

- Printed name.
- Signature.
- Date.
- Time.
- Information.
- Equipment.
- Phone number (if applicable)
- Permit To Work Number (if applicable)

After removal, Information tags must be destroyed and disposed of responsibly.

6.5 REPORTING HAZARDS

6.5.1 Hazard Reporting

Staff shall report any hazards noted during isolation of energy sources by either;

- reporting the hazard to their Coordinator or the person in control of the equipment, or
- by completing a QUU Hazard Report form, FOR76.

Hazard report forms are available from the Qld Urban Utilities Intranet.

7. RELATED DOCUMENTS

FOR346 – QUU Lock Out Tag Out Isolation Register form

8. APPENDICES

8.1 Personal Danger Tag

Front Side **Reverse Side**

8.2 Caution/Out of Service Tag

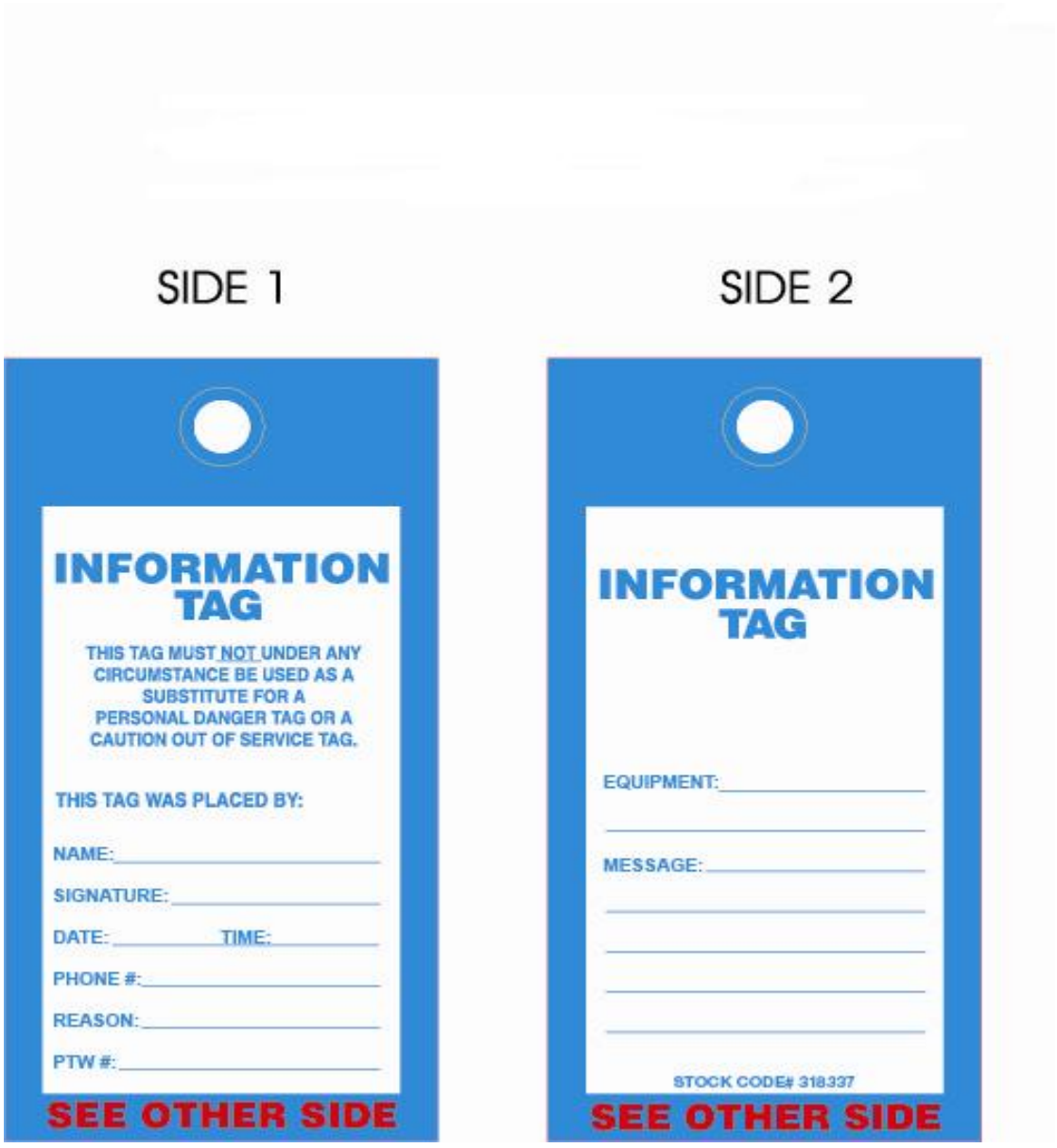
SIDE 1

Front Side

SIDE 2

Reverse Side

8.3 Information Tag



Front side **Reverse side**

8.4 Multi Padlock HASP

Multi Padlock Hasp

8.5 Fabric Kitbag

Fabric Kitbag

8.6 Personal Isolation Lock

Personal Isolation Lock

8.7 Equipment Isolation Lock

Equipment Isolation Lock

8.8 Group Lock Box

Example of Group Lock Box
Work areas may purchase similar products through QUU suppliers.

8.9 Group Lockout Isolation Folder – example only

Example of multi lock out isolation folder
Work areas may purchase similar products through QUU suppliers.

8.10 Valve Isolation Cap

Examples of a valve isolation cap and identifier

Example: A water main valve has been shut off by a First Response Officer for emergency repairs and the water main valve is not able to be Locked Out.

This is neither positive, nor total isolation; therefore other means must be adapted to enable work to continue safely.

This will ensure minimal disruption to the network and will minimise risk to public safety.

When the identifier cap is applied by the First Response Officer, an Information Tag shall be applied to identify the reason for operation.

As soon as the person in control of the workplace (supervisor, coordinator etc.) arrives, they shall;

- Attach their Personal Danger Tag with the details of the Permit To Work, and remove and dispose of the Information Tag, and
- Ensure the Permit To Work is completed correctly and signed on by every worker on the site, and
- Ensure all isolation points have been identified to each worker.

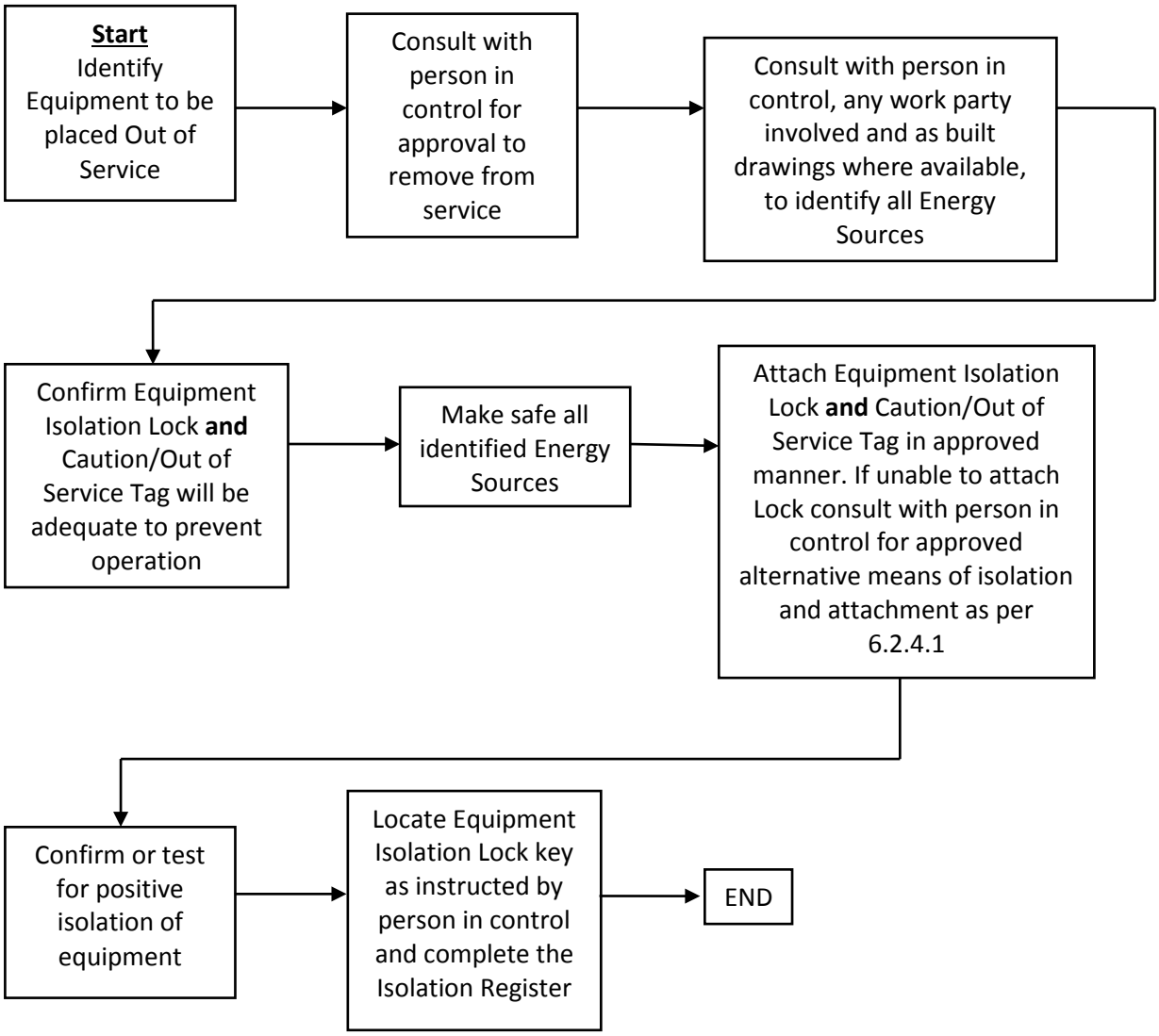
At the completion of the work, the PICOW shall;

- Confirm each worker has completed their task and removed them self from risks associated with removal of isolation from each point, and
- Ensure each worker has signed off from the task documents, and
- Remove their Personal Danger Tag and valve identifier from each valve and re-instated the water main into operation, as per normal operational procedures.

9. FLOWCHARTS

9.1 Apply Equipment Isolation Lock (yellow) and Caution/Out of Service Tag

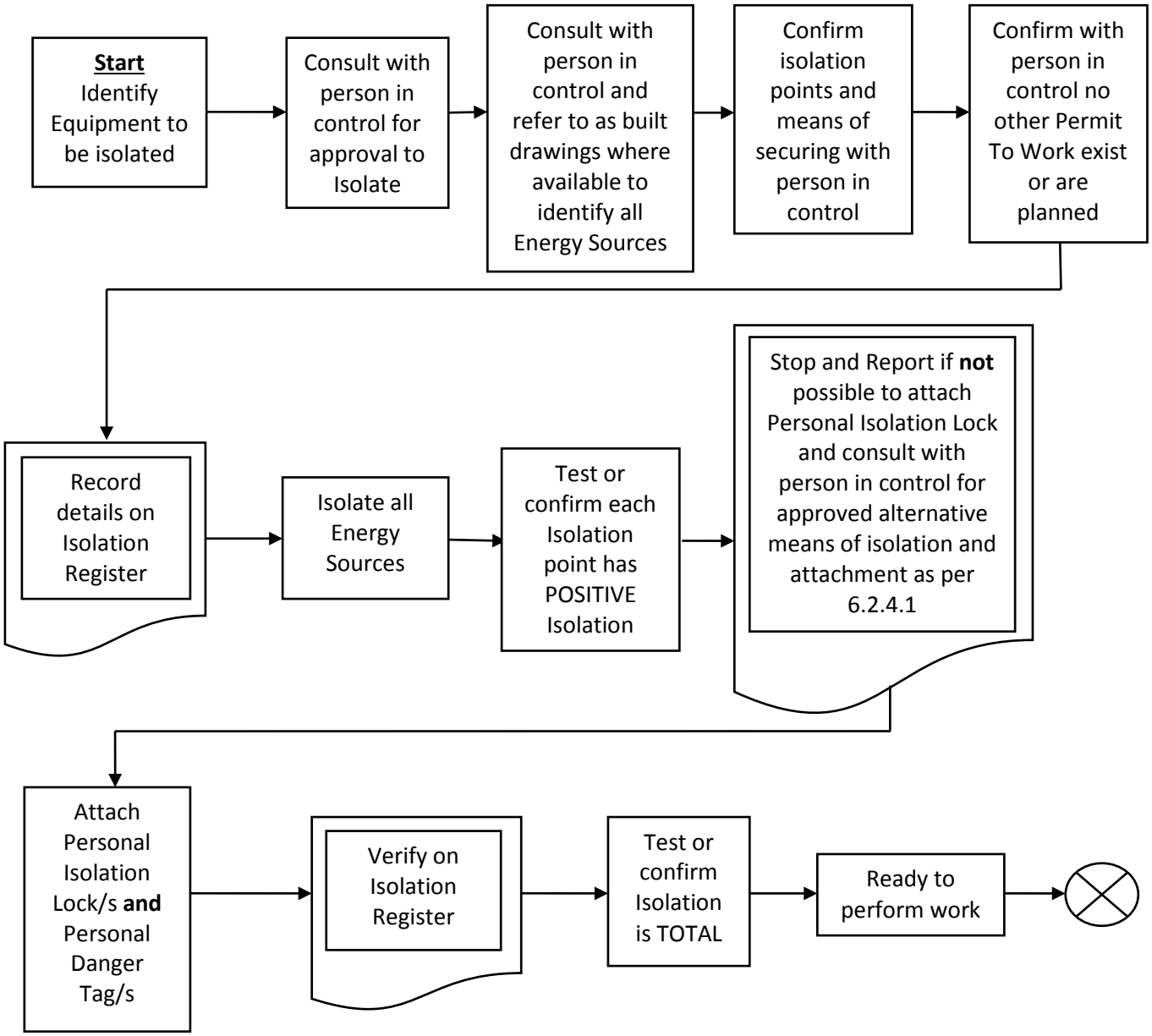
A risk assessment must be conducted in conjunction with a SWMS or other Work Instruction, if applicable, prior to starting and whenever necessary, during the performance of the task.



9.2 Personal Isolation- Apply Lock Out Tag Out- Single Point or up to and including 5 Point Isolation

Single Point or up to 5 Point Isolation.

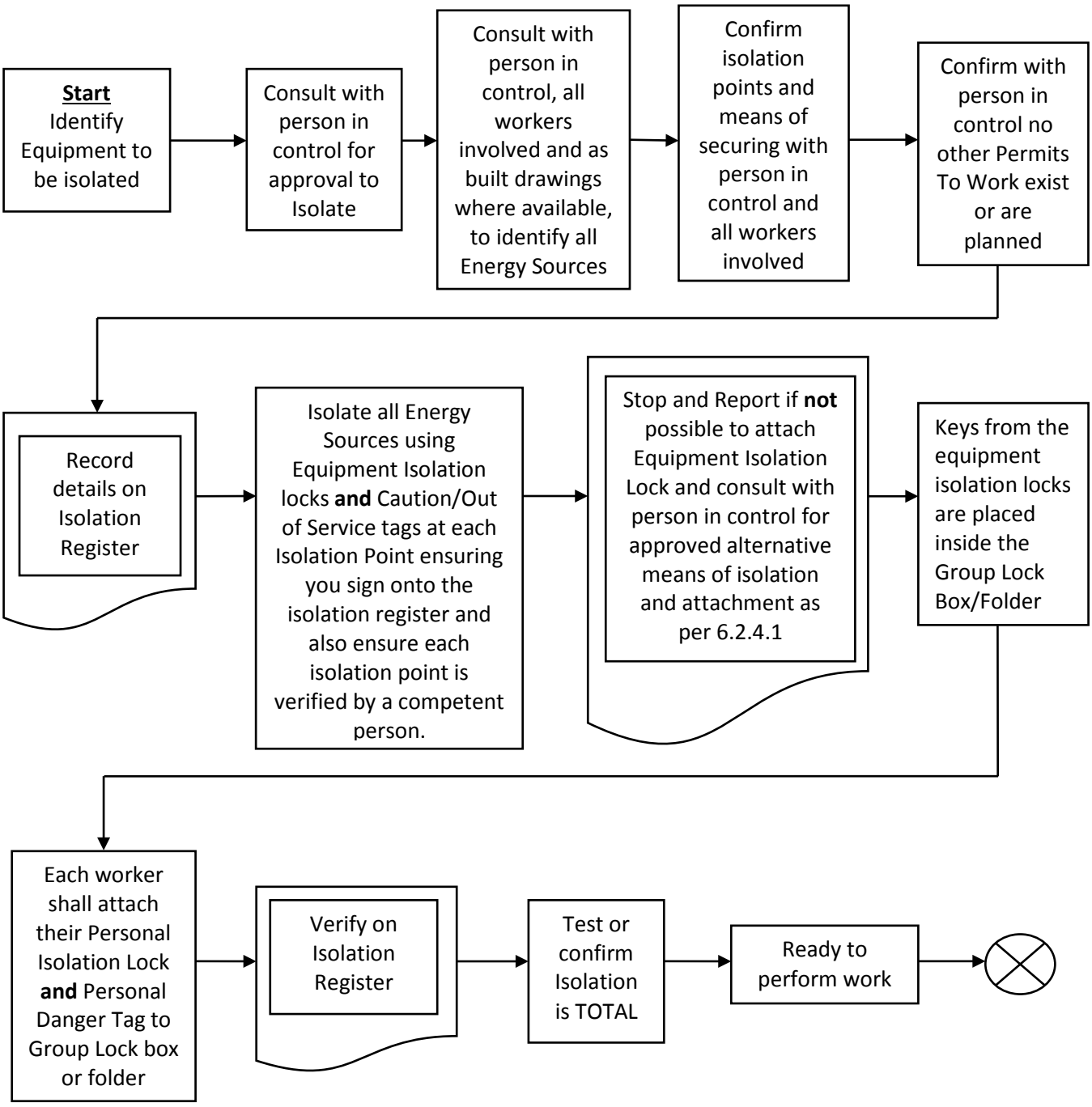
A risk assessment must be conducted in conjunction with a SWMS or other Work Instruction, if applicable, prior to starting and whenever necessary, during the performance of the task.



9.3 Group Isolation-Apply Lock Out Tag Out

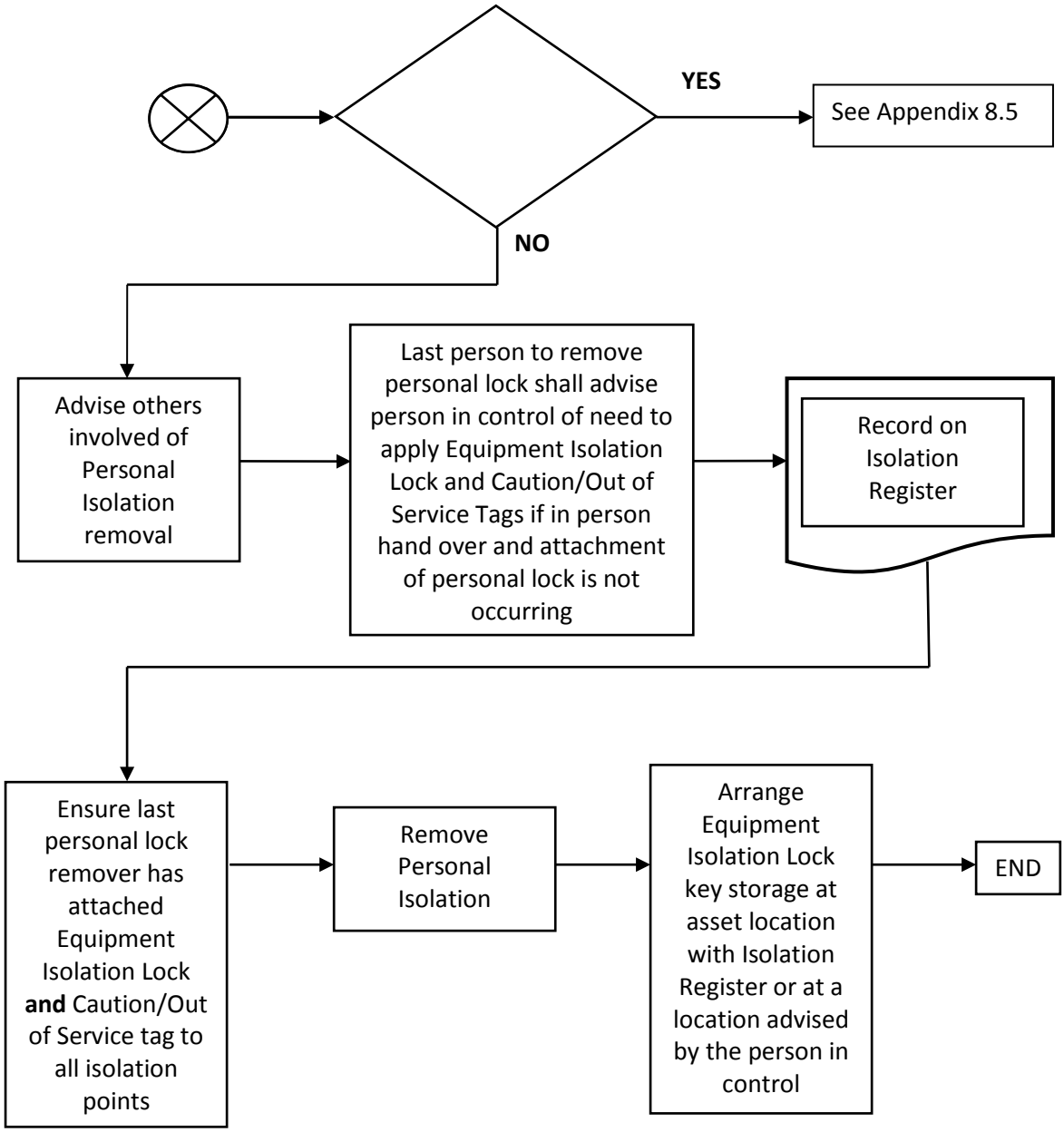
Single or Multiple Point Isolation

A risk assessment must be conducted in conjunction with a SWMS or other Work Instruction, if applicable, prior to starting and whenever necessary, during the performance of the task.



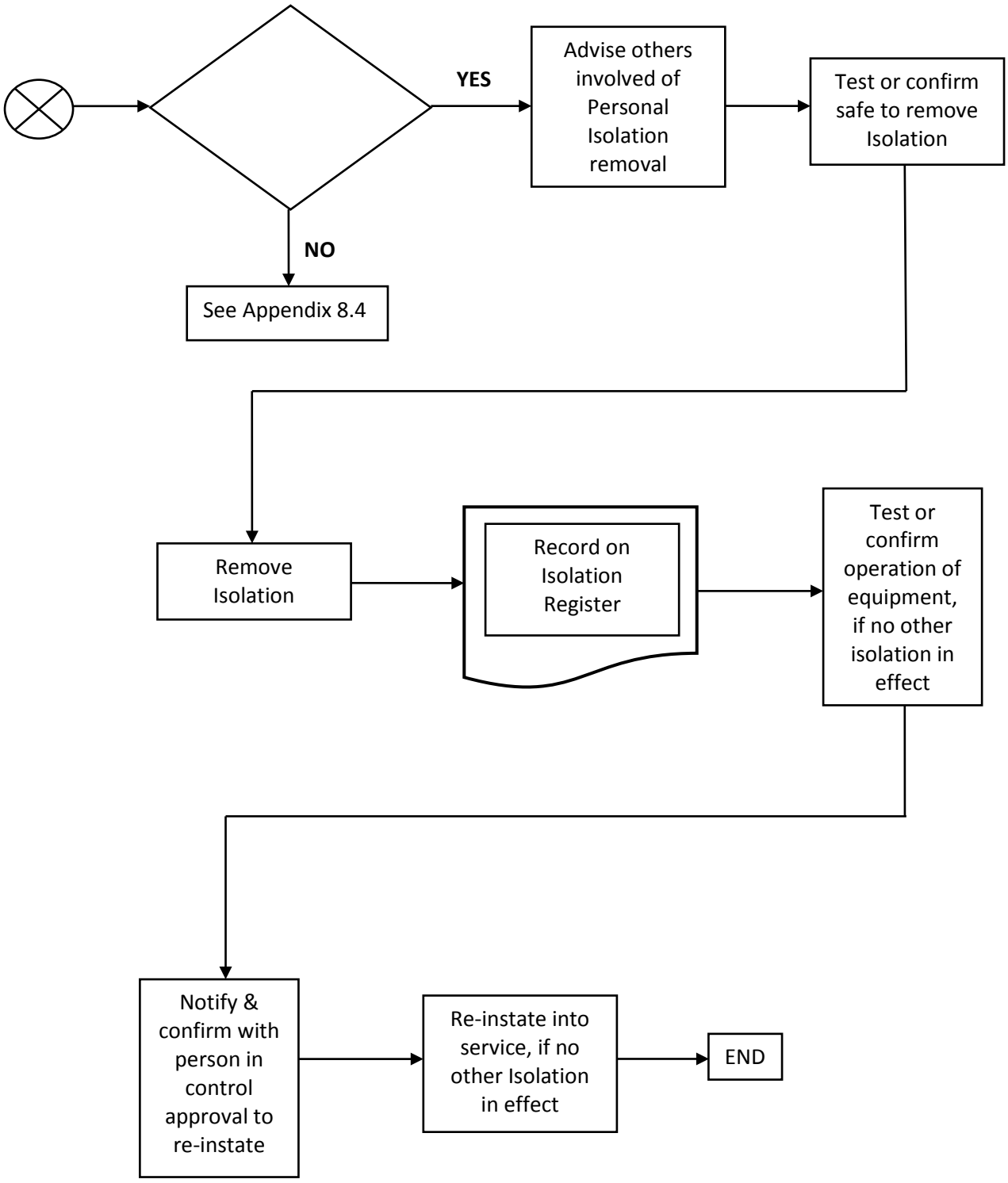
9.4 Personal Isolation (Work Incomplete)

A risk assessment must be conducted in conjunction with a SWMS or other Work Instruction, if applicable, prior to starting and whenever necessary, during the performance of the task.



9.5 Group Isolation (Work complete)

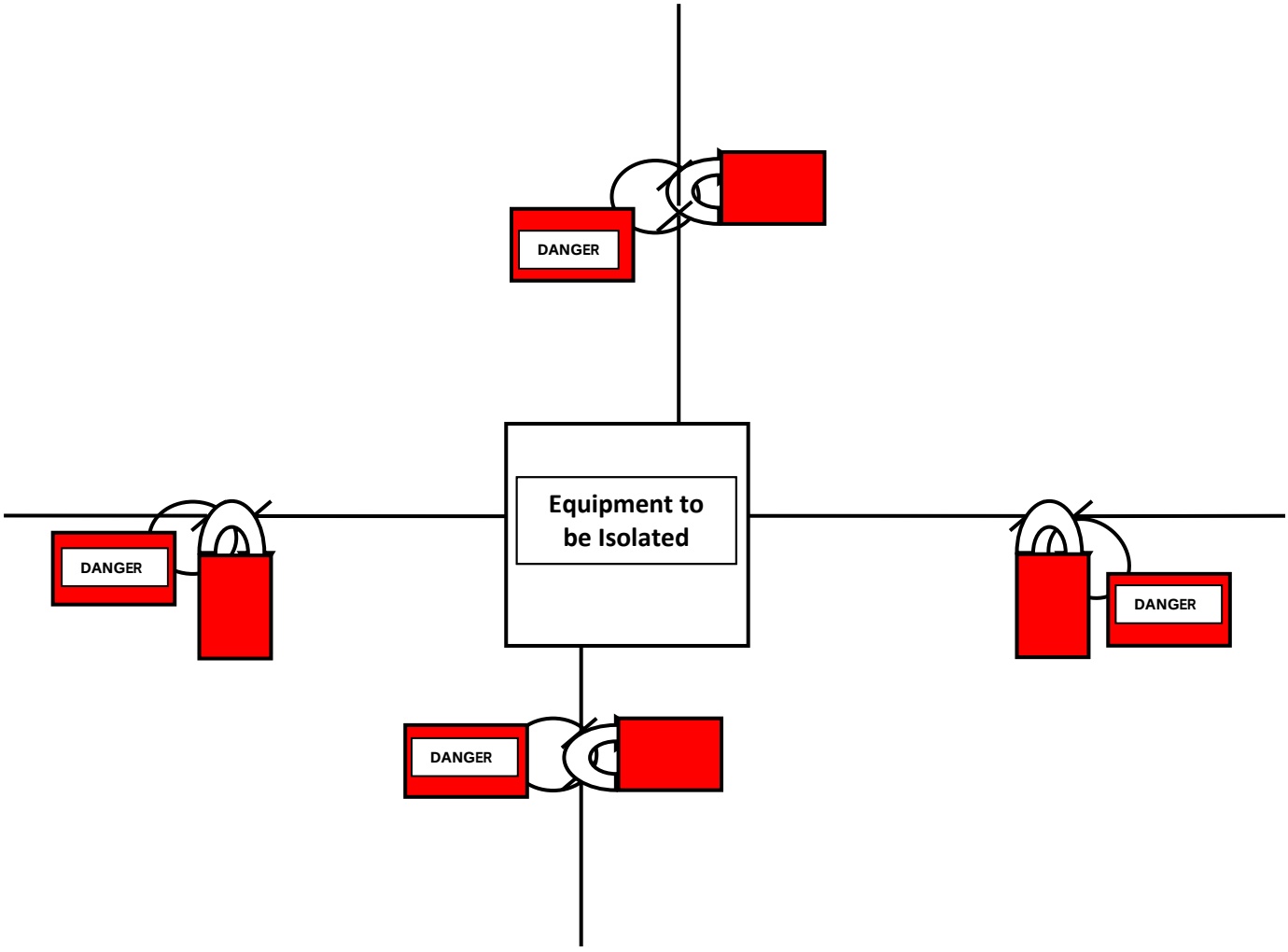
A risk assessment must be conducted in conjunction with a SWMS or other Work Instruction, if applicable, prior to starting and whenever necessary, during the performance of the task.



10. TAG OUT LOCK OUT EXAMPLES

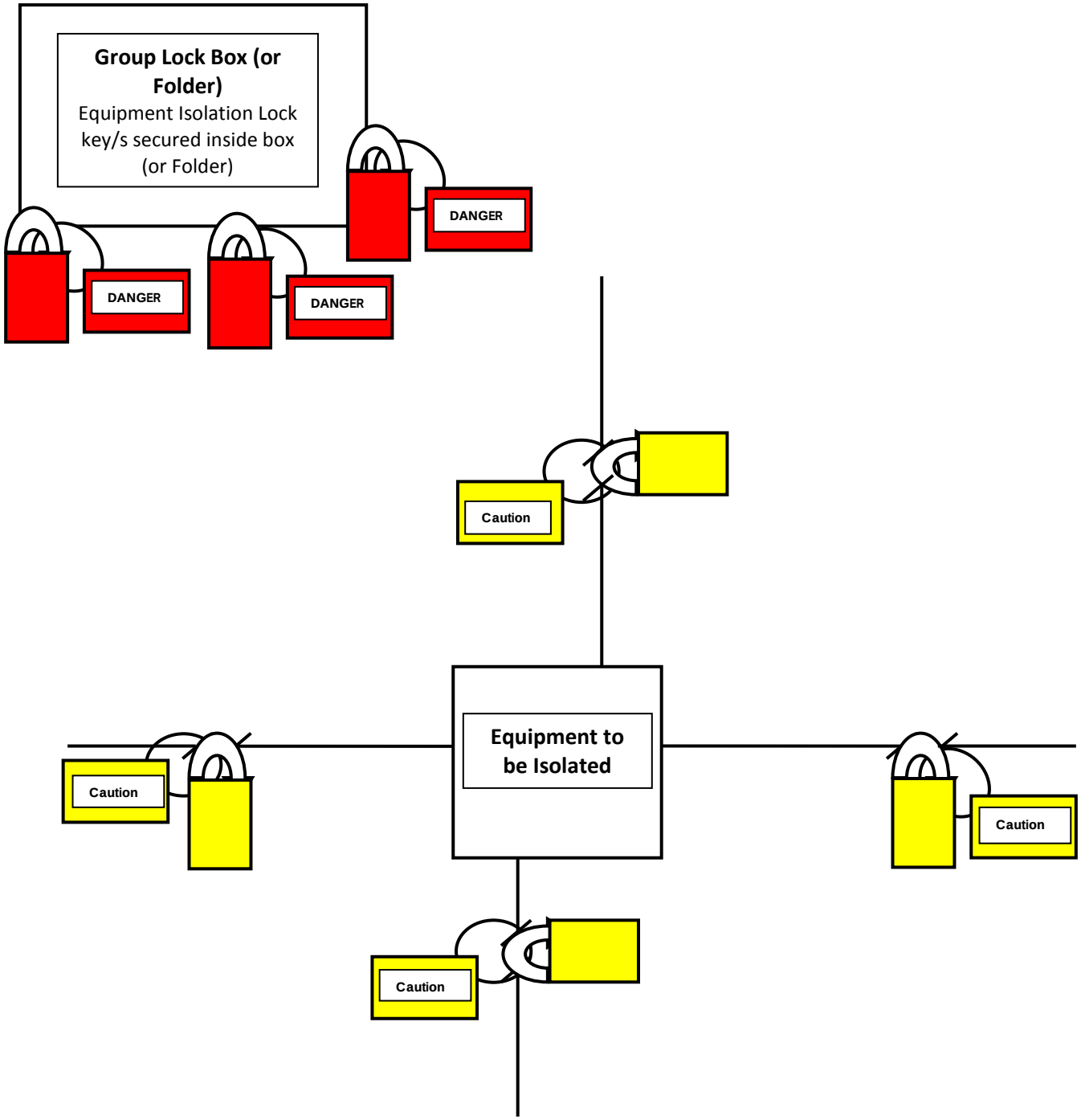
10.1 Personal Isolation for up to 5 isolation points

- **using Personal Isolation Locks and Personal Danger Tags**

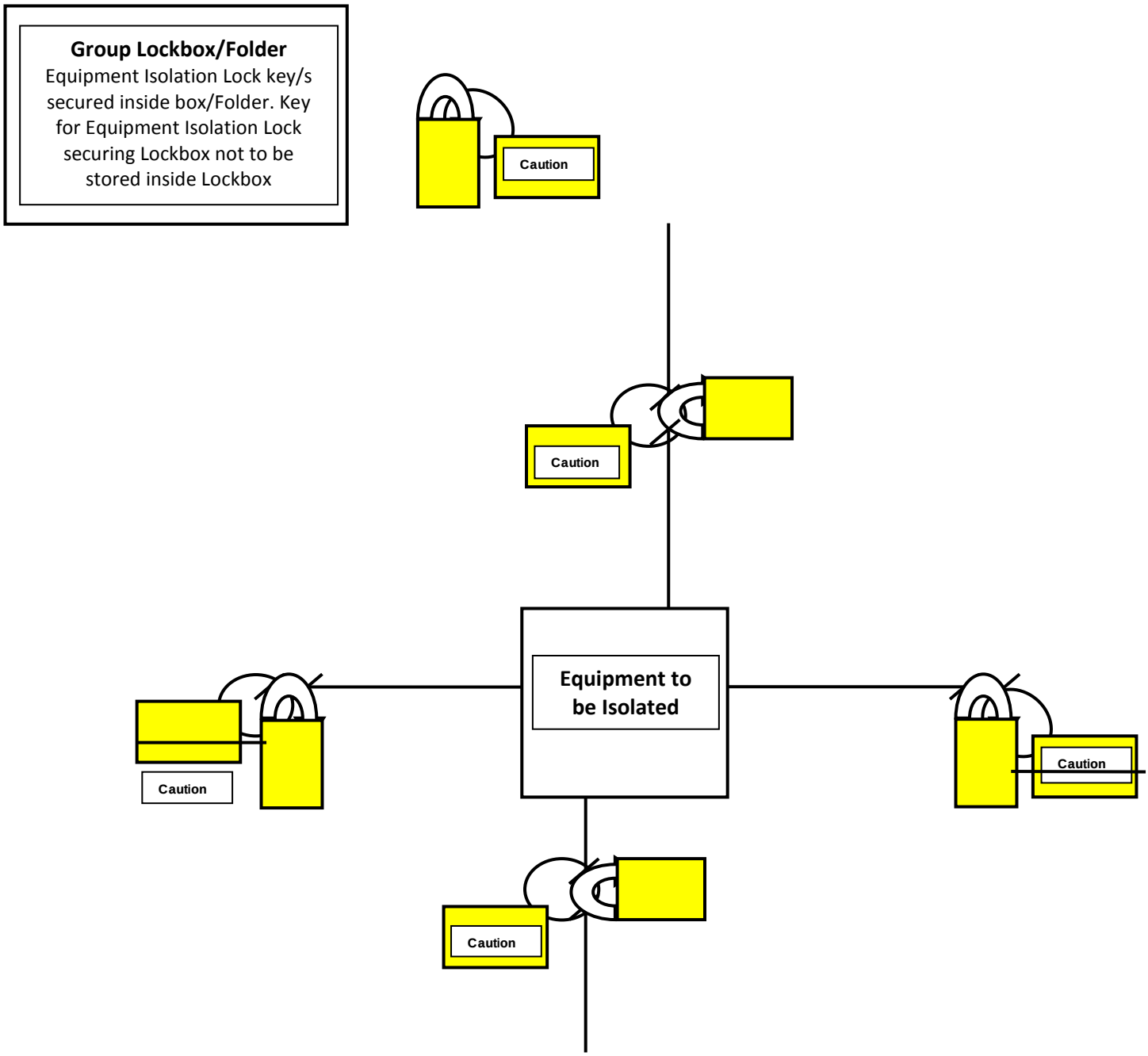


10.2 Group Isolation for any number of isolation points

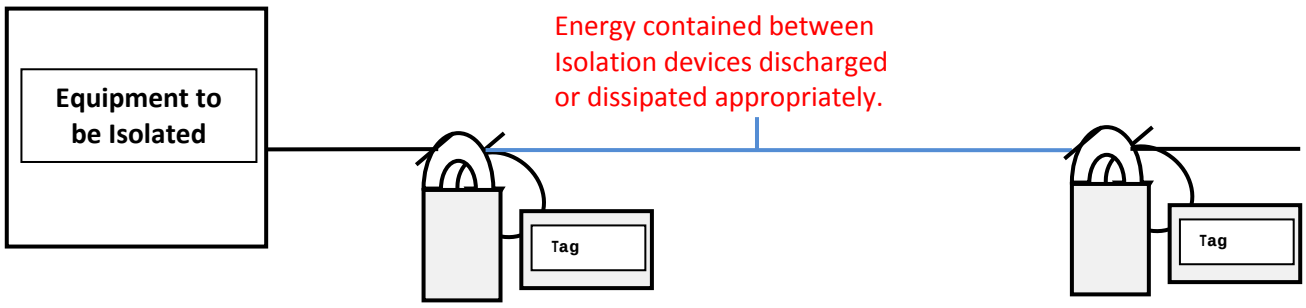
- **using Equipment Isolation Locks and Caution/Out of Service tags, with**
- **Personal Isolation Locks and Personal Danger Tags**



10.3 Maintaining Isolation for any number of isolation points, whilst site is vacant (key retained at asset location with Isolation Register or as directed by person in control) using Equipment Isolation Locks and Caution/Out of Service Tags



10.4 Double Block and Bleed example



Locks and Tags will be appropriate to Isolation type e.g. Personal(Red) or Equipment(Yellow) Isolation Locks.

11. ISOLATION REGISTER

QUEENSLAND UrbanUtilities

IR 003251

Lock Out Tag Out Isolation Register

Equipment:	Permit to Work:	Date: / Register of
Work Order No:	Person in Control of Workplace:	Location:
		Lockout Coordinator:

METHOD OF ISOLATION										REMOVAL	
Types of Energy	Volume or Potential	Type of Isolation Device	Location and Identification of Isolation device	Method of Isolation	Tag Out	Lock Out	Verified By	Date / Time	Positive Isolation Verified	Removed By	Date / Time
See code below	Voltage, temperature, capacity, pressure, etc	Switch, valve, brake, door, etc	Feedline 18A, Panel 3A, Control #342, CB red 18, etc	Open, close, flange, plate, remove, lock, gearbox, etc	√ If used	√ If used	Print Name		Y - Yes or N - No	Print Name	

Has TOTAL ISOLATION been achieved by this process? Yes ☐ No ☐

Has ISOLATION CONTROL transferred to another person? Yes ☐ No ☐

Person in control of Workplace

Name .... Signature ....

E – Electrical P - Pneumatic H – Hydraulic T – Thermal C – Chemical B –Biological G – Gravitational F – Fuels S – Stored R – Radiation 0- Others (define)

QUU10894 (Mar 2012)