

CODE OF PRACTICE

ISOLATION AND LOCKOUT

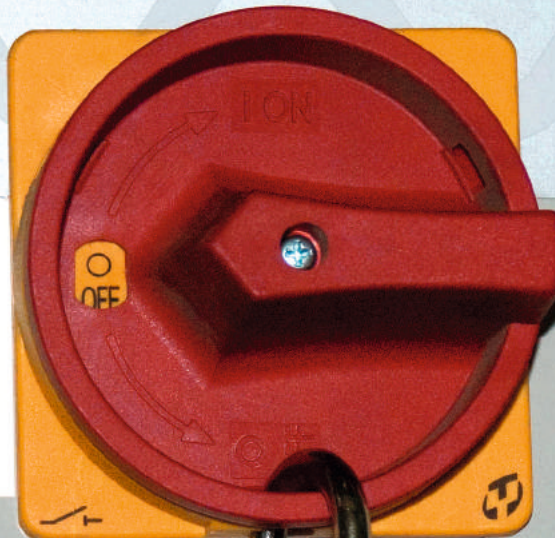
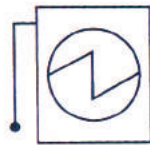


HAZARDOUS VOLTAGE.

More than one disconnect switch may be required to de-energize the equipment before servicing.

Only authorized personnel may service this equipment.

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INTENT

To define the minimum safety requirements that shall be complied with for Isolation and Lockout.

WHY

The aim is to reduce the risk associated with uncontrolled energy sources by having isolation and lockout systems, equipment and procedures in place to reduce the likelihood and/or consequence of an incident from occurring. This document will standardise and improve the consistency, understanding, management and compliance of isolation and lockout.

This Code of Practice (CoP) shall apply to all Visy divisions and those sites, which use isolation and lockout.

All divisions and contractors are required to adopt this CoP and have systems in place to ensure compliance.

HOW

This document details the minimum requirements for isolation and lockout to ensure:

- Compliance with relevant State and Federal Acts, Regulations and Guidelines.
- Compliance with AS/NZS 4024:2006 Safety Of Machinery.
- Isolation and lockout practices are standardised across Visy.
- All relevant personnel are trained.

These requirements shall apply to all sites under the control of Visy including contractors. Each division shall:

- Audit their current operations against this CoP.
- Develop detailed plans to ensure compliance with this CoP.
- Implement those measures required to 'close the gap' on a priority basis according to assessed risk.

REFERENCES

- Occupational Health and Safety Act, Victoria.
- Occupational Health and Safety Regulations, Victoria.
- Occupational Health and Safety Act, New South Wales.
- Occupational Health and Safety Regulations, New South Wales.
- Workplace Health and Safety Regulations, Queensland.
- Workplace Health and Safety Act, Queensland.
- Occupational Health and Safety Welfare Act, South Australia.
- Occupational Health and Safety Welfare Regulations, South Australia.
- Occupational Health and Safety Act, Western Australia.
- Occupational Health and Safety Regulations, Western Australia.
- Electrical Safety Act, Queensland.
- AS/NZS 3000 - Electrical Installations.
- AS/NZS 4836- Safe Working on Low Voltage.
- AS/NZS 4024 - Safety of Machinery.
- CoP - Electrical Safety for Work.
- CoP - Low Voltage Electrical Work, New South Wales.
- High Voltage (The Blue Book).

DEFINITIONS

Approved Test Equipment	Approved test equipment shall be tested on a known source or supply to verify its operation before testing the isolation. The test equipment shall also be rated for the supply that is being tested.
Authorised Personnel	Personnel authorised by Visy to apply personal isolations to plant or equipment.
Breach	A non-compliance with a requirement of this CoP.
Competent Person	Has successfully demonstrated knowledge of both theoretical and practical aspects of isolation as verified by a competent assessor.
Contractor	An individual, company or other legal entity that carries out work or performs services pursuant to a contract for service. This includes sub-contractors and labour hire individuals.
CoP Committee	A group of Visy representatives from each division that is responsible for writing, reviewing and authorising changes to the CoP for isolation and lockout.
Energised Equipment	Equipment that is not removed from its power source or has not been discharged to reduce the risk of movement.
Energy Source	Any form of energy including potential energy that if not safely isolated could give rise to danger.
Identification Tag	Tag identifying the contact details of the person applying the lock.
Isolation	The removal or making safe of an energy source or hazard associated with an energy source by mechanical or other means.
Isolation Officer	A competent person appointed by management to isolate machinery, plant and equipment.
Key Requirements	These elements shall be applied to all operations. Where an element of the CoP is not able to be complied with, a risk assessment shall be conducted and documented. Controls shall be put in place, documented and communicated, people trained and audits carried out to determine the effectiveness of the controls and ensure they are used. These shall be approved by the site manager.
Lockout	The use of mechanical or other suitable devices such as locks to prevent an energy source from being re-energised or started without warning.
Lockout Tag	Where a red personal lock can not be used a lockout tag is attached to an isolation point, to inform personnel that work is being undertaken on plant and equipment and to prevent an energy source from being re-energised or started without warning.
Operations / Site Manager	The manager in charge of an individual site at a given location.
Qualified Person	A person who has successfully undertaken Visy approved isolation and lockout training.
SOP	Standard Operating Procedure, Safe Operating Procedure, Safe Work Procedure or Safe Work Instruction

STATEMENTS OF INTENT

1. Roles and responsibilities under the CoP shall be complied with at all times.
2. Authorised isolation devices shall be clearly defined, documented and communicated.
3. Isolation methods which meet the minimum requirements identified in this CoP shall be clearly defined, documented and communicated.
4. Only authorised personnel will be able to work on or authorise work on systems whilst still energised.
5. All isolations will be conducted by appropriately trained and competent persons.
6. Audits shall be undertaken to monitor compliance by site authorised personnel.
7. Energy sources of all plant and equipment shall be identified and documented on a Site Isolation Plan detailing all the primary isolation points.
8. Any incidents or breaches of CoP requirements will follow the Visy reporting and investigation processes.

KEY REQUIREMENTS

The following Key Requirements shall be applied to all operations. If this is unable to be complied with a risk assessment shall be conducted and documented. Controls shall be put in place, documented and communicated, people trained and audits carried out to determine the effectiveness of the controls and ensure they are used. These shall be approved by operations/site manager.

KEY REQUIREMENT 1 – ROLES AND RESPONSIBILITIES

Key Responsibilities	Isolation Officer	Operations/Site Manager	Production/Maintenance/Engineering Managers	Leading Hand/Supervisor	Employee	Contractor
Isolation Methods	Comply with isolation methods. Responsible for the long term isolation register	Ensure accurate transmission of information on the CoP and make certain the CoP is implemented on site and followed	Ensure compliance with isolation methods	Ensure compliance with isolation methods	Comply with isolation methods	Comply with isolation methods
Authorised Isolation Devices	Responsible for performing group isolations	Ensure compliance with key requirements	Providing locks in accordance with key requirements	Issuing locks in accordance with key requirements	Use of locks in accordance with key requirements	Use of locks in accordance with key requirements
Competency and Training	Participate in higher level training associated with isolation, lockout and the CoP	Ensure compliance with key requirements	Participate in and verify training or competency level of employee prior to isolation	Participate in training as required	Participate in training as required	Participate in training as required
Energised Equipment	Supervise authorised employees working on energised equipment	Ensure compliance with key requirements	Ensure training has occurred for authorised individuals and only those authorised are to work on energised equipment	Ensure only authorised personnel are working on energised equipment	Authorised employees are allowed to work on energised equipment	Authorised contractors are allowed to work on energised equipment
Isolation Plans and Procedures	Produce isolation plans and Procedures as required by key requirements	Ensure compliance with key requirements	Produce isolation plans and procedures as required by key requirements	Ensure employees comply with isolation plans and procedures	Comply with isolation plans and procedures	Comply with isolation plans and procedures
CoP Audit	Participate in audits as required	Ensure audits are conducted and documented	Participate in audits as required.	Participate in audits as required	Participate in audits as required	Participate in audits as required
Incidents and CoP Breaches	Report all incidents and issues and participate in investigations	Investigate any breaches, incidents, issues and determine corrective action	Report all incidents and issues and participate in investigations	Report all incidents, issues and participate in investigations	Report all incidents, issues and participate in investigations	Report all incidents and issues. Provide investigation reports as requested

KEY REQUIREMENT 2 – AUTHORISED ISOLATION DEVICES

Authorised isolation devices shall meet the following criteria:

- Colour.
- Type of device.
- Application of device.
- Standard.
- Prevent the isolation point from being re-energised before the locks have been removed.
- Be purchased from an authorised supplier.
- Designed for the intended isolation point.

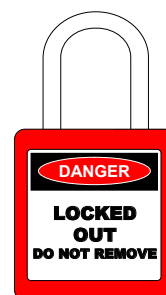
All authorised isolation devices shall not be used for any other purpose than that identified in this CoP.

Personal Lock

Is a lock assigned to an authorised competent person who is required to perform work on isolated equipment.

Personal locks shall be clearly identified and controlled using the following minimum requirements:

- RED in colour.
- Clearly marked with the identification and contact details of lock holder.
- Single unique key.



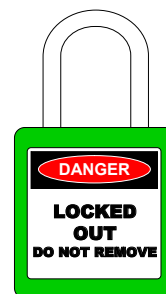
Equipment Lock

Equipment locks are used to lockout specifically identified plant and equipment in a group isolation.

A set of green locks shall be used to isolate a piece of plant or equipment and are typically keyed to one master key, this is the key that is secured in a lock box or on the group isolation board.

Equipment locks shall be clearly identified and controlled by the following minimum requirements:

- GREEN in colour.
- Control of the issue of locks.
- Control of lock sets and keys including:
 - Number of locks in a set.
 - Method of securing multiple locks and keys when not in use.

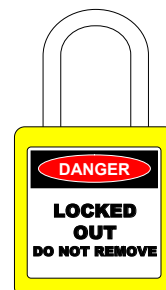


Group Lock

A group lock is applied to a group isolation board or lock box to secure the equipment lock keys and excess locks. This makes the group isolation board or lock box active.

Group locks shall be clearly identified and controlled by the following minimum requirements:

- YELLOW in colour.
- Control of the issue of locks and individual keys.
- Method of securing locks and keys when not in use.



Group Isolation Board or Lock Box

The group isolation board or lock box provides a simple visual method of establishing that an isolation has been put in place.

Keys and excess equipment locks are secured in the lock box or on the group isolation board by the Isolation Officer using a yellow group lock.

A group isolation board or lock box shall as a minimum contain:

- An isolation procedure showing type, location and method of lockout for each energy source.
- A method of securing the board by the Isolation Officer once lockout has been initiated.
- Provision for securing the group isolation board or lock box which requires all personnel working on the isolated equipment, including contractors, to apply their red personal lock to prevent the Isolation Officer from removing the isolation.



Lockout Tags

Locks are to be used as a primary isolation device, where it is not possible to use a lock, approved lockout tags are to be used.

Lockout tags are only to be used as a temporary measure, for plant and equipment where a lockout device is unable to be fitted, until an isolation device can be purchased or the isolation point modified.

Lockout Tags are not to be used for any other purpose.

Only approved lockout tags shall be used.

Identification Tags

Where the name, company and contact details of the person applying the red personal lock is not clearly labelled on the lock, an identification tag with the name, company and contact details of the person applying the lock shall be attached to the lock.

Identification tags are not to be used for any other purpose.

Only approved identification tags shall be used.



KEY REQUIREMENT 3 – ISOLATION METHODS

The isolation and lockout system shall ensure that as a minimum:

- Any person undertaking work shall have appropriate training relevant to their level of responsibility.
- The most common forms of isolation are identified and appropriate procedures put in place.
- An emergency procedure is put in place where Senior Management or representative is authorised to remove isolations as per the section Locks Left On (refer to page 11).
- All persons who work on the isolated plant or equipment shall apply their red personal lock.
- Levels of authorisation and responsibility regarding all methods of isolation and lockout are clearly defined and communicated.
- A process for assessing the isolation method being used is established.
- The issue of all locks and keys is controlled, including the number of equipment locks in a set and a method of securing equipment and group locks when not in use.

To isolate plant and equipment these four steps shall be followed:

Step 1: Check

Before you switch the isolation point off, ensure that it is the one that belongs to the plant or equipment that you are working on.

If you are unsure do not turn the isolation point off until you confirm it is correct.

Step 2: Isolate

Place the isolation point in the safe position.

Step 3: Verify

After plant and equipment has been isolated all energy sources shall be tested in an approved manner by a qualified person to determine that the plant and equipment has been de-energized from all sources of energy.

No work on the plant and equipment shall be undertaken until the isolation has been verified by checking the correct equipment has been isolated. Verification steps must include but are not limited to the following:

- Confirm no identification errors were made (correct isolation point).
- Confirm the isolation point is in the safe position.
- Ensure all energy is dissipated or restrained.
- Observe a change in state of energy when isolating.
- Test for zero energy state.

In the event of a test demonstrating that the isolation has not been achieved the isolation shall not proceed. The Isolation Officer or authorised representative shall be contacted to investigate and approve a new isolation.

Step 4: Lock or Tag Out

- Single person isolation – apply a red personal lock.
- Multiple person isolation – apply a multi-lock device and a red personal lock for each individual person working on the plant or equipment.
- Group isolation – apply a green equipment lock to the isolation point.

To remove the isolation from the plant and equipment these four steps shall be followed:

- 1 Ensure plant or equipment is safe to operate.
- 2 Remove your red personal lock or lockout tag, NEVER remove anyone elses.
- 3 Check to ensure no one is at risk if the plant or equipment starts up.
- 4 Re-energise the isolation point.

Energy Sources

When performing an isolation, all forms of energy shall be identified and then isolated in the work area. These will include but are not limited to:

- Electricity.
- High pressure systems (pneumatics, hydraulics, water, steam).
- Potential energy (items which may fall under their own weight).
- Kinetic energy (energy stored in springs, flywheels, high pressure systems).
- Thermal energy (extremes of heat and cold).
- Chemical.
- Hazardous substances.
- Radiation.

Single Point, Single Person Isolation

Plant and equipment that is made safe by the application of a red personal lock to a single isolation point by a single person. This method shall ensure that:

- Single operators accessing machines with single points of isolation are protected from the unexpected start-up, re energising or release of other forms of energy.
- There is a system for verifying the isolation prior to any work commencing.

Single Point, Multiple Person Isolation

Multiple operators accessing machines with a single point of isolation, this involves the use of a multi-lock device such as a hasp, to ensure all operators can apply their red personal locks. This method shall ensure that there is:

- Clear identification of who is working on the equipment.
- Prevention for removal of the isolation unless all red personal locks have been removed.
- There is a system for verifying the isolation prior to any work commencing.

Multiple Point, Single Person Isolation

Single person accessing a machine with multiple points of isolation, using several red personal locks on multiple isolation points.

The system shall meet the following minimum conditions:

- The method takes into account the complexity of the isolation involved.
- The development of isolation plans or SOPs which clearly define the location, type, method and responsibility of all isolations associated with the required plant or equipment.
- There is a system for verifying the isolation prior to any work commencing.

Multiple Point, Multiple Person Isolation

Multiple people with multiple points of isolation, using multiple red personal locks for each individual. This isolation method shall ensure that:

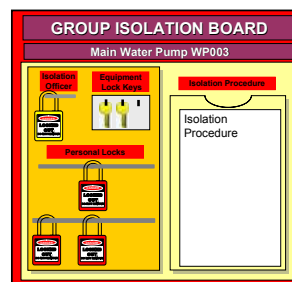
- Identification of who is working on the equipment.
- Methods of prevention of removal of isolation unless all red personal locks have been removed.
- A person is authorised to perform the main isolation function (Isolation Officer).
- There is a method of controlling the isolation for long duration tasks.
- The isolation is verified.

Group Isolation

Used for complex or large isolations where multiple people will be working on the isolated plant or equipment and where a lock box or group isolation board is used to visually and physically control the isolation.

An Isolation Officer following the isolation procedure uses one or more sets of green equipment locks to apply to multiple isolation points to effectively lock out a piece of plant or equipment. The keys and any remaining locks are then placed in a lock box or a group isolation board which is locked with the Isolation Officer's yellow group lock activating the isolation.

All personnel working on the isolated plant or equipment then apply their red personal locks to the lock box or group isolation board preventing it from being opened until all red personal locks have been removed.



All group isolations shall as a minimum:

- Be conducted by an authorised Isolation Officer.
- Have an isolation procedure.
- Control all workers who are working on an individual piece of plant or equipment or working across multiple pieces of plant and equipment.
- Control the issue of all equipment lock sets to an Isolation Officer.
- Be contained in a lockable box or group isolation board which allows for verification that all keys and unused locks are secure inside.
- Have provision for securing the lock box which requires all personnel working on the isolated equipment, including contractors, to apply their red personal lock to prevent the Isolation Officer from removing the group isolation.
- Have a method for controlling the isolation for a long duration and shift/crew handover of isolated plant or equipment.

Incomplete Work

When work cannot be completed within a given shift the site shall do one of the following two:

1. Maintain the current group isolation

- Equipment and group locks shall remain in place for the entire duration of the work being performed.
- Red personal locks must be removed by staff at the end of each work day or shift.
- An isolation handover between Isolation Officers including a briefing and documented sign off shall occur.

2. Deactivate the group isolation

If a handover cannot occur or equipment needs to be locked out for an extended period the following shall apply:

- All red personal locks shall be removed from the group isolation board or lock box.
- The Isolation Officer shall remove the yellow lock deactivating the group isolation.
- The green equipment lock keys and the isolation procedure must then be secured in a designated secure location accessible by the incoming Isolation Officer.
- The incoming Isolation Officer shall, before reactivating the group isolation board or lock box, check all isolation points.

A group isolation shall never be in place without the Isolation Officer present on site.

Locks Left On

In situations where a person has left a job and failed to remove their red personal lock the Operations Manager or authorised representative, may only make the decision to have that lock removed provided these steps have been followed:

- 1 All practical efforts have been made to contact the person to return and remove their red personal lock.
- 2 Ensure that competent and suitably qualified people have checked that the equipment is safe to operate.

The person shall be advised as soon as practicable that their red personal lock has been removed and their personal isolation is no longer in place.

KEY REQUIREMENT 4 – WORKING ON ENERGISED EQUIPMENT

Authorisation for exceptions to working on isolated systems

Where possible the equipment shall be isolated prior to commencing the task. It may be a requirement that some systems remain energised whilst work is undertaken. e.g. electrical systems for fault finding. The personnel working on these systems must be authorised and each site shall keep a record of these qualified and authorised people.

These personnel will have specific knowledge and be trained to work on energised systems. Once the fault has been identified then an isolation needs to be applied before a repair is undertaken.

All work on live equipment shall require a documented risk management process prior to work commencing eg JSEA or SOP.

KEY REQUIREMENT 5– COMPETENCY AND TRAINING (TECHNICAL SKILLS AND BEHAVIOURS)

Each site shall have in place the following with regard to training and competency:

- All isolations will be conducted by appropriately trained and competent persons.
- Training and competency of the individual must be verified prior to allowing individuals to conduct isolations.

KEY REQUIREMENT 6 – AUDITS

All sites will be audited by a competent person external to the division every 2 years to ensure that they have developed and implemented procedures, practices and documentation in accordance with this CoP.

Each site will annually review the application of isolation procedures to ensure that employees are following the isolation plan and all forms of hazardous energy have been made safe before work commences. This review shall be conducted by the Isolation Officer, Operations/Site Manager, or any other manager deemed to have sufficient experience or training in isolation practices. The results of these reviews shall be documented and made available for external audit as above.

The CoP shall also be reviewed annually by the CoP committee to ensure it remains current with any legislative changes.

KEY REQUIREMENT 7 – ISOLATION PLANS AND PROCEDURES

Isolation Plans

Each site shall have an Isolation Plan in the form of diagrams or lists detailing the positions of all plant or equipment on site indicating all primary isolation points of the plant, equipment and the site.

The isolation plan shall as a minimum contain:

- Location and type of isolation method for each isolation point associated with the plant or equipment.
- A method of labelling and identifying each primary isolation point associated with the plant and equipment.
- The required authorised isolation devices for each isolation point.

Isolation Procedures

An isolation procedure is a live document outlining the process for isolating a particular piece of plant or equipment and is stored on the group isolation board or lock box. All group isolations shall have an isolation procedure in place. Isolation procedures shall contain the following information:

- Expected duration of the isolation.
- Contact details of the Isolation Officer.
- The isolated plant or equipment.
- Location and type of isolation point.
- How to make safe each isolation point.
- How to verify isolation is effective.
- Details of lockout or tagout requirements.

KEY REQUIREMENT 8 – INCIDENTS AND CODE OF PRACTICE BREACHES

The Visy reporting system shall be used to report all incidents and breaches of CoP requirements. All serious incidents shall have a full investigation. If the incident involves a contractor then a full investigation report shall be requested from the contractor.

The following breaches may result in disciplinary action up to and including dismissal:

- Removing another person's red personal lock or lockout tag.
- Attempting to energise, or energising plant or equipment that has been isolated.
- Working on equipment that has been isolated without applying their red personal lock or lockout tag.
- Failing to lock out equipment which leads to unauthorised work on live equipment.
- Working on live equipment when an isolation should be in place.

AUDIT CHECKLIST

Refer to the Audit Tool – CoP – Isolation and Lockout

CoP COMMITTEE MEMBERS

Andy Jewell	Visy Pulp and Paper	Paul O'Beirne	Visy Packaging - Board
George Curtis	Visy Packaging – Primary NZ	David Carney	Visy Logistics
Danial Dunn	Visy Recycling	Geoff Goodhew	Visy Packaging - Board
Daniel Visic	Visy SSLT		

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