

This procedure details the company's requirements for the isolation of plant and the Lock-Out and Tag-Out (LOTO) of plant items to ensure a safe, robust and consistent approach throughout PBPL. The intention is to minimise risks to health and safety from any potential accidental start-up of machinery or plant, movement of materials during servicing or any other contact with, or exposure to, hazardous energy.

This procedure covers all plant items at PBPL operated and/or maintained sites, including PBPL vessels. It applies to both employees and suppliers/contractors.

## Plant Hazards

During normal or routine work activities, PBPL people will typically be protected from contact with significant sources of energy associated with plant by fixed hazard controls (separation, guarding or other engineering means) or due to the source of energy being contained within the plant.

When specific work activities are required on the plant such as inspection, cleaning, servicing, maintenance, repair, replacement, installation or dismantling, the fixed hazard controls cannot be relied upon. In particular, guards, interlocks or other safety devices may have to be removed or by-passed and people may have to enter danger zones of the plant. In these cases, isolation and energy dissipation are required.

## Hazard & Energy Sources

When undertaking specific work activities involving plant, protection is required from sources including:

- movement or operation of the plant itself
- movement of materials handled or conveyed by the plant
- contact with energy used to operate the plant
- contact with energy used to carry out processes within the plant
- contact with energy produced or carried by the plant
- contact with energy stored within the plant.

Examples of the hazard and energy forms involved may include (but not be limited to):

- electrical energy (electrical power supply, battery supply, capacitors, static charges)
- mechanical energy (mechanical drives, moving and rotating parts)
- pressure energy (compressed air, hydraulics, vacuums)
- gravitational energy (counterweights, suspended parts, hung-up materials)
- potential energy (springs, parts under strain or compression)
- thermal energy (hot or cold surfaces and substances, heat radiation)
- hazardous substances (corrosives, poisonous substances, asphyxiates, flammable, explosive and chemically reactive substances).

The isolation process must provide for each person involved with the work to personally ensure that hazard and energy sources associated with the plant are isolated, dissipated or restrained and that they will continue to be so until the person stops work involved with the plant.

As work activities involving plant varies greatly in its nature and complexity, a single isolation procedure cannot provide the protection and practicality required for all situations. As such, three separate isolation methods for use in different scenarios have been established.

## Working without an Isolation

### **Minor Inspection or Servicing Tasks**

During normal operation of plant it is often necessary to carry out minor tool changes, inspections, adjustments and minor servicing tasks. Such tasks may be carried out without isolation if all of the following criteria apply:

- it is routine, repetitive and integral to the use of the plant
- the task is performed using alternative means to provide effective protection to the people involved (e.g. slowing the speed of the plant, placing the plant in a specified mode to undertake such a task, use of personal protective equipment, maintaining a safe distance from the plant, etc)
- the people carrying out the task are competent to do so
- the task is undertaken in accordance with any standard instructions or minimum requirements specified by the manufacturer of the plant.

### **Live Work Tasks**

In some specific circumstances, it may be necessary to work on plant when the sources of energy to it have not been isolated intentionally.

Tasks such as adjustment, monitoring, fault finding and certain kinds of maintenance may require the plant to be energized or operated. In other cases it may be necessary to keep the plant operating to ensure continuity of service, or may be totally impracticable to de-energise the plant. In these circumstances, live work tasks must only be carried out by competent people in accordance with procedures and work activity risk assessments specifically developed to ensure the safety of people involved and compliance with the appropriate legislation.

## General Isolation Requirements

### **Isolation Process**

- stop the plant
- isolate, dissipate and restrain energy sources
- lock and tag or otherwise ensure that the plant cannot be re-energised and/or operated
- verify and test that the isolation, dissipation and restraints are effective (positive isolation)
- work on the plant
- remove any locks, tags, isolation and restraint measures
- re-energise the plant.

### **Documenting the overall isolation needs to include:**

- the nature of the plant involved
- the hazards and energies involved (type, number of varying types, potential to harm)
- complexity of the isolation (number of steps and actions required and locations of the isolation points)
- number of people involved in the work
- duration of the isolation
- potential for others not involved in the work to be affected by the isolation.

### **Choosing the Required Isolation Method**

To ensure the most suitable and safe isolation method is used, the [Isolation Method Decision Flow Chart at Appendix 1](#) is to be used.

## Specific Isolation Methods

### **Single Person – Direct Shutdown**

This isolation method is only to be used **if identified as suitable** by applying the [flow chart at Appendix 1](#).

Only a competent person who is familiar with the specific work activity, plant involved and the isolation required may undertake the Single Person – Direct Shutdown isolation method:

- identify all hazard and energy sources involved with the plant and proposed work, and isolate, dissipate or restrain the energy sources so the plant is in a safe state to work on (this may include unplugging power leads, disconnecting air hoses, turning off and removing ignition keys of vehicles or a similar direct shutdown type action).
- verify / test the effectiveness of the isolation, dissipation and restraint of energy sources (this may include visually checking for breaks in connections, checking isolation controls, attempting to start the plant or by other similar / basic means).

Application of isolation tags or locking controls are not mandatory during this isolation method.

- carry out work on the plant and closely monitor the plant and isolation method used to ensure no other person re-energises the plant while work is carried out (this may include keeping leads, hoses, keys, etc under the person's direct control).
- after work is complete, check and ensure that the plant is in a satisfactory state to be returned to service and that it is clear of all tools, equipment, materials and other persons who may be affected before the plant is re-energised and returned to service.

If at any stage the person stops work on the plant without finishing the tasks, leaves the work location at the end of the shift, or leaves the plant unfit for use, the person is to follow the [Out of Service Tag-Out Process](#).

### **Basic Isolation – Limited Steps & Energies**

This isolation method is only to be used **if identified as suitable** by applying the [flow chart at Appendix 1](#).

The isolation method and related work activity requires the following to be completed:

- Written Risk Assessment
- Permit to Work Form
- Plant Isolation Control Form

For the Basic Isolation – Limited Steps & Energies method, only a competent person who is familiar with the work activity, plant involved and the isolation required, is to document the activity on the [Plant Isolation Control Form](#).

**Following the isolation planning phase**, the competent person authorised to perform the isolation, (Isolation Person) is to undertake the isolation process on the plant.

The Isolation Person is to isolate, dissipate or restrain the energy sources so the plant is in a safe state to work on.

Isolation of energy sources is to be done physically by interrupting the supply of energy. This means to act directly on the energy supply line, be as close to the plant concerned as practicable and not act through control circuits or emergency stop mechanisms.

Effective isolations may include:

- turning off isolating switches or removal of fuses in electrical circuits
- closing of valves
- disconnecting batteries, leads, cables or hoses

- blanking off pipelines.

Effective dissipation of energy sources in the plant may include:

- opening valves to drain pipelines, pressure vessels and hydraulic accumulators
- opening access hatches and inspection covers
- earthing
- releasing springs
- dropping of counterweights.

Effective restraint of energy sources in the plant may include:

- securing springs or gravity devices
- closing of cover plates, applying brakes or insertion of chocks
- securing of rotation or floatation devices.

**The Isolation Person is to apply an isolation lock and isolation tag to all devices** used for isolating, dissipating or restraining energy on the plant. If multiple work party members are involved with the work activity, the Isolation Person is to also attach an appropriate lock-out device (which allows the placement of numerous personal locks) to each of the devices used for isolating, dissipating or restraining energy on the plant.

The Isolation Person is to verify / test the effectiveness of the isolation, dissipation and restraint of energy sources. This may include visually checking for breaks in connections, checking isolation controls, testing to prove de-energised of electrical circuits, attempting to start the plant or by other similar means.

Once satisfied with the plant isolation, the Isolation Person is to document same by acknowledging the plant isolation component within Section 5 of the Plant Isolation Control Form.

**Following acknowledgement**, the supervisor in direct control of the work party members (who would typically also be the Isolation Person) is to communicate the scope of the isolation and any relevant safety precautions involved, to the work party members. This includes:

- showing the work party members where the isolation points are (including isolation locks and isolation tags) so that each person can hang their own personal lock and personal isolation tag on each point
- enabling the work party members to verify / test / check for themselves (where appropriate and competent to do so), the effectiveness of the isolation, dissipation and restraint of energy sources.

Once satisfied with the plant isolation and communication process the following steps need to be followed:

- supervisor is to document the acknowledgement in the work authorisation component - Section 5 of the Plant Isolation Control Form, then
- work party members who have locked on are to document this via the Permit to Work Form, Section 5 – Work Party Members Sign On / Off, then
- work involving the de-energised plant may now commence.

**People are to carry out work on the plant** and have individual security of the plant's de-energised energies by:

- ensuring that they have their own personal locks and tags hung on the isolation points at all times they are working on the plant
- maintaining on-going consultation with each other and the supervisor
- signing on and off the Permit to Work Sign On/Off Section as per the [Permit to Work process](#).

While plant is isolated, no person is to attempt to:

- operate an energy isolation, dissipation or restraint device which has been locked and tagged

- otherwise re-energise or restart the plant while persons are working on it
- remove or tamper with any other person's lock or tag.

After work is complete each work party member is to:

- check and ensure that the plant is clear of tools, equipment and material
- replace any relevant guards
- ensure the plant is left in a satisfactory state to be returned to service
- remain clear of the plant, remove their own personal locks and tags and sign off as per the Permit to Work process.

**Following work completion**, the supervisor is to:

- check and ensure that the plant is in a satisfactory state to be returned to service, that guards have been replaced and that it is clear of all tools, equipment, materials and other persons who may be affected before the plant is re-energised and returned to service, then
- ensure that all work party members have removed their personal locks and tags and have signed off as per the Permit to Work process, then
- remain clear of the plant, remove their own personal locks and tags and sign off as per the Permit to Work process (where applicable), then
- document that work is complete via acknowledging the work complete component within Section 6 of the Plant Isolation Control Form, then
- inform the Isolation Person (if the supervisor is not performing this role) that the plant is fit to restore/re-energise.

Once satisfied that all people are clear of the plant and the plant is fit to restore / re-energise the Isolation Person is to:

- remove their own isolation locks and isolation tags, then
- restore / re-energise the plant, then
- document the plant restoration by acknowledging the plant isolation restoration component within Section 6 of the Plant Isolation Control Form.

The supervisor is to liaise with the Isolation Person (where they are separate people) and where deemed appropriate, follow the [Out of Service Tag-Out Process](#). This may include scenarios such as:

- where work has been temporarily halted so that testing (re-energising the plant under controlled conditions) can be undertaken following the removal of all personal locks and tags and isolation locks and tags
- where plant is left unfit for use at the end of a shift and all people have removed their personal locks and personal tags (leaving only the isolation locks and tags).

### **Complex Isolation – Documented Steps**

This isolation method is to be used if the Single Person – Direct Shutdown and Basic Isolation – Limited Steps & Energies methods are not appropriate or sufficient to provide the required level of isolation safety. Refer also to the [flow chart at Appendix 1](#).

This isolation method is to be undertaken as part of the written risk assessment and Permit to Work processes. That is, the isolation method and related work activity is a documented one that requires the following to be completed:

- Written [Risk Assessment](#)
- [Permit to Work Form](#)

- [Plant Isolation Control Form](#)
- [Plant Isolation Steps sheet](#)

For this Complex Isolation – Documented Steps method, two competent people who are familiar with the work activity, plant involved and the isolation required, are to be involved in the isolation planning phase.

One competent person authorised to perform the isolation (Isolation Person) is to determine and document the following:

**Within the Plant Isolation Control Form:**

**Section 1:** Description of the Work Activity to be undertaken

**Section 2:** Plant Isolation Scope details (including a description of the plant to be isolated, description of the boundary of the isolated area and any pre-isolation permissions that may be required prior to isolation)

**Section 3:** Plant Isolation Hazard & Controls (including an identification of the energies that will be controlled via isolation, isolating controls required to be adopted by the person during the isolation, and isolation resources required to perform the isolation inclusive of isolation tag and lock numbers)

**Section 4:** An indication that the isolation is not a Basic Isolation – Limited Steps & Energies type and will require a Plant Isolation Steps Sheet to be completed.

**Within the Plant Isolation Steps sheet:**

**Section 1:** Isolation Steps section (which includes detailing the isolation and restoration steps required for the isolation inclusive of: location and description of plant component to be isolated; description of the isolation action required; and an indication of a corresponding isolation tag number to which the step coincides where applicable)

**Section 2:** Isolation Preparation acknowledgement (indicating that they have undertaken suitable investigations and research with respect to the scope of plant required to be isolated and have prepared the Plant Isolation Steps listing to enable safe isolation and associated de-energised work.

**A second Isolation Person is to document the following within the Plant Isolation Steps sheet:**

**Section 1:** Isolation Verification acknowledgement (indicating that they have undertaken an independent review of the prepared Plant Isolation Steps listing and concur that it will enable safe isolation and associated de-energised work with respect to the scope of plant identified for isolation.

***Isolating the Plant:***

In addition to the requirements outlined in the Basic Isolation section of this procedure, the Isolation Person is to isolate, dissipate or restrain the energy sources so the plant is in a safe state to work on, in accordance with the list of the isolation steps within the Plant Isolation Steps sheet.

***Isolation Lock-Out, Tag-Out & Verification:***

In addition to the requirements outlined in the Basic Isolation section of this procedure, once the Isolation person is satisfied with each progressive isolation step and isolation tag placement, each isolation step needs to be progressively initialled within section 1 of the Plant Isolation Steps sheet.

***Isolation Communication, Confirmation & Work Party Member Control:***

In addition to the requirements outlined in the Basic Isolation section of this procedure, the isolation Person is to show the work party members the Plant isolation Steps sheet with completed isolation sequence.

***Plant Isolation Changes:***

If an isolation change is required between the initial isolation and full restoration milestones, (for reasons such as testing, commissioning or alter isolation purposes), these are to be tracked within Section 2 of the Plant Isolation Steps sheet.

No isolation change is to be made unless it is planned, communicated and documented thoroughly. This includes the following milestones:

- detailing the planned change (Columns 1, 2 & 3 of Section 2 of the Plant Isolation Steps sheet)
- communicating to the work party members, the need:
  - for the isolation change
  - to suspend work
  - to remove their own personal locks and tags
  - to sign off the Permit to Work
- verifying that work party members have all signed off the Permit to Work and are clear of the plant, (via Column 4 of Section 2 of the Plant Isolation Steps sheet)
- undertaking the isolation changes in a safe manner
- once complete, communicating any isolation status changes and re-authorising work to recommence (via Column 5 of Section 2 of the Plant Isolation Steps sheet)

Following such changes, the work party members are to apply their own personal locks and tags as per the standard working on plant requirements and sign on at per [Permit to Work process](#) requirements.

#### ***Work Completion & Plant Isolation Restoration:***

In addition to the requirements outlined in the Basic Isolation section of this procedure, the Isolation Person is to progressively request the work party members to:

- remove their own isolation locks and isolation tags
- restore / re-energise the plant
- initial each restoration step as complete within Section 1 of the Plant Isolation Steps sheet.

Once fully restored and re-energised, the plant restoration process is to be documented by acknowledging the plant isolation restoration component within Section 6 of the Plant Isolation Control Form.

#### ***High Voltage – Documented Switching Steps***

This isolation method must only be used for high voltage electrical switching isolations.

Although very similar to the Complex Isolation – Documented Steps isolation method, this method specifically involves:

- high voltage electrical plant that is only accessible to specifically trained and authorised employees and electrical suppliers/contractors
- key planning, documentation and authorisation aspects to be consistent with external entities such as Energex, inclusive of their documentation.

Therefore, the content and requirements detailed within a [High Voltage Switching sheet](#), [Access Permit](#) and [Test Permit](#) essentially take the place of the various requirements and acknowledgements defined within the Plant Isolation Control form and Plant Isolation Steps sheet.

As high-voltage switching is often undertaken in response to a fault / contingency or to provide de-energised access to electrical apparatus or plant not controlled by PBPL, the High Voltage – Documented Switching Steps method may be achieved via a number of authorised ways. These are summarised in the following table:

Scenario	Entity Performing the Switching	Documentation / System Requirements
<b>Planned switching of high voltage apparatus</b>	<b>Authorised employees</b> <i>(licensed electrical workers &amp; HVIA authorised)</i>	<ul style="list-style-type: none"> <li>➤ <a href="#">Permit to Work Form</a></li> <li>➤ Written <a href="#">Risk Assessment</a></li> <li>➤ <a href="#">High Voltage Switching sheet</a></li> <li>➤ <a href="#">High Voltage Access Permit</a> &amp;/or <a href="#">Test Permit</a></li> </ul>
<b>Planned switching of high voltage apparatus</b>	<b>Authorised suppliers/contractors</b> <i>(licensed electrical workers &amp; HVIA authorised)</i>	<ul style="list-style-type: none"> <li>➤ Permit to Work Form</li> <li>➤ <a href="#">Supplier/Contractor Risk Assessment/Safe Work Method Statement</a></li> <li>➤ Supplier/Contractor Approved High Voltage Switching sheet</li> <li>➤ Supplier/Contractor Approved High Voltage Access Permit &amp;/or Test Permit</li> </ul>
<b>Unplanned / contingent switching of high voltage apparatus (to ensure plant / personnel safety)</b>	<b>Authorised employees</b> <i>(licensed electrical workers &amp; HVIA authorised)</i>	<ul style="list-style-type: none"> <li>➤ <a href="#">High Voltage Unplanned Switching record</a></li> <li>➤ High Voltage Access Permit &amp;/or Test Permit</li> </ul>
<b>Unplanned / contingent switching of high voltage apparatus (to ensure plant / personnel safety)</b>	<b>Authorised contractors</b> <i>(licensed electrical workers &amp; HVIA authorised)</i>	<ul style="list-style-type: none"> <li>➤ Supplier/Contractor Approved High Voltage Switching sheet or Unplanned Switching record</li> <li>➤ Supplier/Contractor Approved High Voltage Access Permit &amp;/or Test Permit</li> <li>➤ Specific notification of unplanned / contingent switching to PBPL electrical coordinator</li> </ul>
<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>❖ Repair / modification / installation works on PBPL controlled apparatus / plant following unplanned / contingent switching of high voltage apparatus is to be undertaken as part of the Permit to Work process (Permit to Work form and necessary associated documentation).</li> <li>❖ Only authorised suppliers/contractors may undertake switching and associated works using their internal documentation if it has been reviewed and approved for use by PBPL.</li> </ul>		

Planned high voltage switching and associated works via the Permit to Work system is to be undertaken where practicable in preference to unplanned / contingent processes. Unplanned / contingent process should only be used in emergency or fault response scenarios where high voltage fault finding and isolation of high voltage apparatus must be undertaken as a key priority in the interests of safety and plant protection, prior to being able to document a Permit to Work form and High Voltage Switching Record.

With respect to the High Voltage – Documented Switching Steps method, the following key principles apply:

- the actual isolation, testing to prove de-energised, placement of operator earths, issuing and surrendering of access and test permits as well as restoration steps – is to be documented within a High Voltage Switching sheet

- the de-energised work to be undertaken on HV apparatus, placement of working earths and sign on/off of Work Persons – is to be documented within a High Voltage Access Permit
- the de-energised testing tasks (which may involve varying earths and performing various electrical test protocols), placement of working earths and sign on/off of Work Persons – is to be documented within a High Voltage Test Permit
- an Access Permit and Test Permit cannot be issued at the same time under a High Voltage Switching Sheet
- all isolation points and operator earths must be locked-out
- all isolation points and operator earths must have either an isolation tag affixed to the locked-out point or a Do No Operate Board (DNOB) attached.

Only employees or suppliers/contractors who are competent in High Voltage Isolation and Access (HVIA) procedures and who have been authorised by PBPL to undertake high voltage switching, are permitted to:

- prepare the isolation and restoration items within a High Voltage Switching sheet
- undertake the role of a Switching Coordinator, Operator or Assistant
- issue Access Permits or Test Permits.

### Out of Service Tag Out Process

The out of service tag-out process is a warning process. It is intended to provide a visual warning to workers that plant is unfit for further use, or for some reason may create an unacceptable level of risk if used. The out of service tag-out process is not to be used to provide protection for people working on plant.

A **“DANGER Out of Service”** tag is recognisable as a red and white tag and a **“CAUTION Out of Service”** tag is recognisable as yellow and black. These tags are used to protect the individual and machinery, and **must only be removed** by the person who placed and signed the tag.

The person who placed the tag must be contacted to attend site and remove their tag prior to any works occurring on the item that has been tagged out.

Removal of these tags without authority will render you liable to disciplinary and/or legal action.

Specifically, application for Out of Service Tag-Out use includes:

- where work (previously under an isolation process) has been temporarily halted so that testing (re-energising the plant under controlled conditions) can be undertaken following the removal of all personal locks and tags and isolation locks and tags
- where plant is left unfit for use at the end of a shift and all people have removed their personal locks and personal tags (leaving only the isolation locks and tags as per an isolation process)
- where a plant item such as fixed workshop plant or a portable equipment item or tool is found to be unfit for further use and in need of future repair.

A person who hangs an Out of Service Tag is to ensure that the plant item is brought to a safe state. If not part of an isolation process, this may be undertaken by stopping the plant and isolating, dissipating or restraining any significant sources of energy as appropriate.

After bringing the plant to a safe state, the person is to then attach an Out of Service Tag to the controls of the plant or some prominent position near the controls. The Out of Service Tag is to be filled out completely.

When an Out of Service Tag is placed generally to identify an item unfit for further use or in need of future repair, a Variation is to be sent to the work group responsible for the repair, rectification or external servicing actions of the item (Marine Maintenance for vessels and electrical equipment related to Marine Maintenance and Facilities Management for building items, etc). Marine Maintenance have a Quarantine Area for items that can be relocated into until the item is repaired.

## Removal of Locks, Lock Out and Out of Service Tags of an Absent Staff Member

Locks and tags are placed on equipment for the protection of people while working on that equipment or until a piece of equipment can be repaired and made safe.

Changeover procedures may be required in certain situations, or an Out of Service Tag is to be placed if an item is unfit for use after the worker has left.

However, if a lock or tag has been left and the person who placed the tag and lock is not on site, the following procedure must be followed and records kept for five years by all signatories.

Note: Leaving a Lock or Tag in place when leaving site may be considered as misconduct.

The removal of a Lock or Tag is an extremely high risk activity and the removal of a Lock or Tag by anyone other than the person who placed it, without following the procedure below would breach legislated obligations and will be considered misconduct.

### Procedure:

Step 1: The supervisor of the area in which the equipment is located must make every effort to contact and return the person who placed the tag to site. This may be at the person's expense.

Step 2: If the person cannot be returned to site and the lock or tag must be removed, all of the following people must be notified and confirm they agree for the process to begin to remove the lock or tag:

- Business Unit Leader\*
- Manager of the Site\*
- Health and Safety Manager\*

*\* Or representative of person if away on leave.*

Step 3: The person who placed the Lock or Tag must be contacted to confirm the work performed to date and work yet to be completed on the equipment will not place other people at unknown risk by,

- Manager of the Site\*
- Health and Safety Manager\*
- Person thoroughly familiar with the equipment, its operation, maintenance and reason for being locked out

*\* Or representative of person if away on leave.*

Step 4: Written detail of the work performed must be given by the supervisor of the person who placed the locks or tags and written confirmation must be provided that the work required to be undertaken has been completed and checked.

Step 5: Once the equipment has been certified as fit for return to service, the 3 people above (in Step 3) must physically inspect the equipment and associated processes to ensure that all people are clear of the equipment and that no people are in a position to be harmed by equipment malfunction on start up.

Step 6: Upon confirmation that people are not in a position to be harmed by the equipment, all signatories are to record their authorisation on the attached form.

Step 7: A final inspection is to be conducted to ensure the equipment and associated processes are inaccessible to any but essential people for start-up.

Step 8: When the 3 people above (in Step 3) are satisfied of the health and safety of all people, the Locks or Tags can be removed and the equipment may be recommissioned.

**All people authorising this activity must be present to assist with or supervise the entire commissioning procedure.**

### ***Acceptable Level of Risk***

A risk or working situation that, after an informed decision is made, is considered acceptable to both PBPL and the people who will be affected by the hazard or hazardous situation.

### ***Competent Person***

A person who has been trained, acquired qualifications, experience, the knowledge and skills to perform the specified task.

### ***Isolation***

A process which must provide for each person involved with plant related work to personally ensure that hazard and energy sources associated with the plant are isolated, dissipated or restrained and that they will continue to be so until each person stops work involved with the plant.

This process must be achieved via one of the following methods:

- [Single Person – Direct Shutdown](#)
- [Basic Isolation – Limited Steps & Energies](#)
- [Complex Isolation – Documented Steps](#)
- [High Voltage – Documented Switching Steps](#)

### ***Isolation Lock***

A lock secured to an isolation point by an Isolation Person.

### ***Isolation Person***

A competent person who is authorised to perform an isolation process for a specific item of plant. This authorisation may be achieved via a number of means, depending on the work and plant involved, inclusive of the following (or a combination of the following):

- completion of a PBPL induction
- completion of PBPL on-the-job familiarisation of plant and isolation processes
- being a licensed electrical worker
- completion of High Voltage Isolation and Access (HVIA) competency training

### ***Isolation Point***

A mechanical device that physically blocks or prevents the:

- release of gases, liquids, solids
- transmission or accumulation of energy which could present a hazard

### ***Isolation Tag***

A tag that is attached to an isolation lock and placed by an Isolation Person to provide specific isolation information relating to the isolation lock.

### ***Lock-Out***

Term used to describe a process of securing an isolation point in a safe position and preventing plant from being inadvertently operated or releasing an energy which could present a hazard. This securing process involves the application of an isolation lock/s as a minimum, as well as personal locks depending on the isolation method adopted.

***Out of Service Tag***

A tag intended to provide a visual warning to workers that plant is unfit for further use, or for some reason may create an unacceptable level of risk if used.

***Permit to Work form***

PBPL document that tracks the requisition, authorisation and close-out of a work activity that involves one or more specified high-risk work tasks. The Permit to Work form is the guiding document required to authorise certain persons to undertake a work activity in a designated area and at a specific time. The Permit to Work also tracks the sign on and off of the work party.

***Personal Lock***

A lock secured to an isolation point by a work party member to provide that person with personal control of the plant and its related energies.

***Personal Isolation Tag***

A tag that is attached to a personal lock and placed by a work party member to provide specific information relating to the personal lock.

## Appendix 1 – Isolation Method Decision Flow Chart

