



## **ISOLATION AND TAGGING PROCEDURE - ALBANY**

## Isolation and Tagging Procedure - Albany

### DOCUMENT CONTROL

| Version Number | Description  | Reviewed by  | Approved by             | Revision Date | Issue Date |
|----------------|--------------|--|-------------------------|---------------|------------|
| 1              | New Document | Albany Safety and Security Officer<br>Superintendent Maintenance and Operations<br>Regional Manager - Albany | Chief Operating Officer | 12/05/2020    | 26/06/2020 |
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|                |              |  |                         |               |            |

### AUDIT

This procedure shall be reviewed / revised

- Where a Risk Assessment / Audit identifies a need to review;
- Following a significant incident involving this procedure; or
- At least every 2 years.

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## IMPORTANT SUMMARY POINTS

- ❏ The Out of Service Tag is placed on plant or equipment which is faulty, or an isolation point where maintenance work is incomplete and when there is a risk to equipment if it is started or operated.
- ❏ A Lock Holder is not permitted to do their own isolation; they shall only apply their Red Personal Lock and PDT onto a confirmed Group Isolation, Lock Box or Locking Device which has been isolated by a Group Isolator.
- ❏ An Individual Isolator may NOT apply Group Isolations or isolate for others including Lock Holders, they can only isolate equipment / plant that they are going to personally work on.
- ❏ Group Isolators are authorised to isolate plant and equipment for Lock Holders and Individual Isolators, to protect a group of people at a single point of personal locking (Locking Device or Lock Box) for multiple location isolations.
- ❏ Red Personal Locks and Personal Danger Tags (PDT) are there for your own protection and the key must be kept under your control at all times.
- ❏ Equipment / plant shall be isolated at the main (primary) isolation point, for example the MCC, mobile equipment main isolation switch, service feed line valve or tap.
- ❏ You are the only person authorised to place or remove your Red Personal Locks and PDTs.
- ❏ Red Personal Locks shall not be used for any other purposes other than isolating to form part of an established safe system of work for an individual.
- ❏ Any member of the work group can request verification of the isolation at any point during the task.
- ❏ A test / try for confirmation of a zero energy state of the plant / equipment must be performed and is considered a key step in confirming a **zero energy state, or the control** of mechanical or potential stored energy.
- ❏ When there are more than six (6) Red Personal Locks on an isolation device, or when there is a requirement to lock onto more than six (6) single point isolations, then a Lock Box - Group Isolation shall apply;
- ❏ Lock Holders and Individual Isolators working under a Lock Box shall be witnessed by the nominated Group Isolator 1 and be checked that they understand what is being isolated when applying their Red Personal Lock and PDT onto the Lock Box.
- ❏ Isolations shall also be applied prior to cleaning / clearing and working on fixed plant, equipment or systems and all possible energy sources that have the potential to cause injury, damage or uncontrolled release of energy, examples of which includes but is not limited to:
  - The removal of guards, opening doors for clearing hang ups / cleaning material from under a conveyor and clearing a metal detection.
- ❏ A conveyor pull wire / lanyard is the vertical boundary. Should you or a part of your body or tool / equipment be required beyond this point to conduct a task, isolation at the MCC shall be required.
- ❏ Your Red Personal Locks, PDT must be removed:
  - on the completion of the job,
  - on completion of your component of work,
  - at the end of the shift; or
  - before you leave site.

## 1. PURPOSE

This procedure documents the process for conducting isolation, lockout and tagging processes to provide a safe system of work to protect persons from potential hazards associated with uncontrolled energy release. The Isolation, Lock Out and Tagging processes include the use of a Red Personal Lock, Personal Danger Tags, Isolation Tags, Isolation Devices and Lock Boxes at Southern Ports.

## 2. SCOPE

This procedure shall be used for all isolation, lock out and tagging activities conducted by Southern Ports employees, contractors, port users and visitors.

Requirements for the isolation and switching of High Voltage electrical devices are NOT covered under this procedure. Refer to the SP procedure High Voltage Electrical Isolation and Access D15/1901.

## 3. ENERGY SOURCES

Energy may consist of many sources that have the potential to drive, move, activate or energise any plant, equipment or system. These energy sources include but are not limited to:

| Energy Source | Examples   |
|---------------|--|
| Fluid         | Liquids, steam, hydraulics, water  |
| Gas           | Pressurised gases, compressed air, vacuum  |
| Mechanical    | Mechanical couplings, gearing, linkages, drive shafts, springs, conveyors, rail  |
| Chemical      | Volatile chemicals, radiation, fuels   |
| Electrical    | <ul style="list-style-type: none"> <li>Extra Low Voltage (50AC to 120 DC ripple free)</li> <li>Low voltage (exceeding extra low voltage but not exceeding 1,000 Va.c. or 1500 Vd.c. or less) electrical power,</li> <li>High Voltage exceeding low voltage.</li> </ul> |
| Gravitational | Gravity take up towers (GTUs) / counterweights, telescopic chutes, suspended loads, clearing hang-ups  |
| Stored        | Ship mooring lines, accumulators, springs, inflating tyres, pressure vessels   |

Prior to repairing, maintaining, clearing metal detects, adjusting or cleaning of plant, equipment or systems, all possible energy sources that have the potential to cause injury, damage or uncontrolled release are to be assessed and isolated using the most effective method possible to achieve a zero energy state.

**Note:** A conveyor pull wire / lanyard is the vertical boundary. Should you or a part of your body or tool / equipment be required beyond this point to conduct a task, an isolation at the MCC shall be required.

## 4. ISOLATOR GRADING

### 4.1. Visiting Lock Holder (Less than 1 shift in duration)

A person/s who will be under the direct supervision of a Southern Ports permanent employee, contractor or port user, who holds the competency of a Group Isolator. This person/s will be instructed on the requirements of applying a Red Personal Lock and Personal Danger Tag (PDT) in compliance with the Southern Ports Isolation and Tagging Procedure.

A Visiting Lock Holder will generally be a short term contractor, port user, customer, vendor or consultant, who may be required to perform a task / work at a Southern Ports site that requires an isolation or isolations.

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Visiting Lock Holders will be issued with the required number of Red Personal Locks consistent with the requirements of this procedure as stated in Section 6.

A Visiting Lock Holder is **NOT PERMITTED** to do their own isolation; they shall only apply their Red Personal Lock and PDT onto a confirmed Group Isolation, Lock Box or Locking Device which has been isolated by a current competent Group Isolator.

### 4.2. Lock Holder

A person who has received basic training and has been deemed as “competent” in applying their Red Personal Lock and Personal Danger Tag (PDT).

A Lock Holder will generally be a SP employee, permanent contractor, port user, customer, vendor, consultant, apprentice or trainee who may be performing work at a Southern Ports site that requires an isolation or isolations.

A Lock Holder is not permitted to do their own isolation; they shall only apply their Red Personal Lock and PDT onto a confirmed Group Isolation, Lock Box or Locking Device (Hasp) which has been isolated by a Group Isolator.

**Note:** An apprentice in their final trade year may be permitted to isolate, but shall do so only when under direct supervision by a Responsible Person who is an appointed Group Isolator, who will also sign onto the Orange Isolation Tag stating that the isolation was conducted under their supervision.

### 4.3. Individual Isolator

A person who has operational experience in the area they are working in and has received training and been deemed as competent in applying individual isolations, including the application of securing their Red Personal Lock and PDT, in accordance with the approved assessment criteria, onto an isolation point or an approved “Locking Device”.

An Individual Isolator may NOT apply Group Isolations or isolate for others, they can only isolate equipment / plant that they are going to personally work on.

A maximum of six (6) individual Isolators may lock onto a lock out device (Hasp), or when isolating up to six (6) single point isolations.

### 4.4. Group Isolator

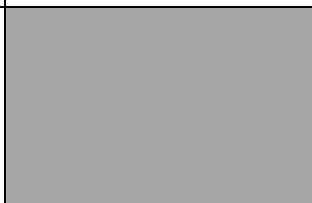


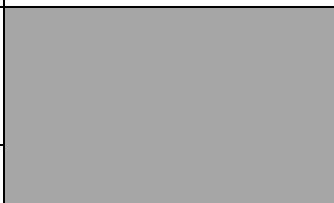

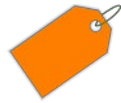





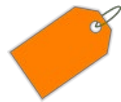
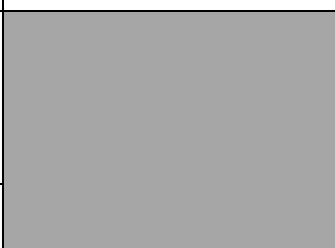
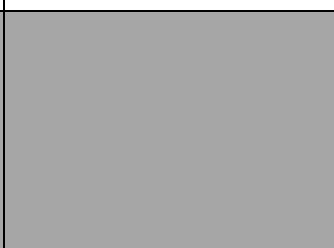






A Group Isolator shall have first qualified as an Individual Isolator, have significant experience with the Southern Ports Isolation and Tagging Procedure and relevant Southern Ports plant / equipment within their discipline. They will have undertaken the required training, been assessed and deemed as competent in applying Group Isolations and will be appointed by the appropriate Southern Ports Regional Manager (Registered Manager or their delegate).

Group Isolators are authorised to isolate plant and equipment for Lock Holders and Individual Isolators, to protect a group of people at a single point of personal locking (Locking Device or Lock Box) for multiple location isolations.

A Group Isolator shall be required when there is a need to have greater than six (6) individuals on any one (1) isolation point or where there is a requirement to isolate more than six (6) single point isolations.

For Lock Box isolation's, a minimum of two (2) people (both must be competent Group Isolators) are required to implement a group isolation. One person shall be nominated as “Group Isolator 1”, who will conduct the isolations and the other as “Group Isolator 2”, who will conduct the confirmation checks for each of the isolations.

## 5. ISOLATION MATRIX

|                   |                        | Type of Competency  |   |  |   |   |   |
|-------------------|------------------------|---|---|--|---|---|---|
|                   |                        | Group Isolator<br>↓   |   | Individual Isolator<br>↓   |   | Lock Holder<br>↓  |   |
|                   |                        | Isolates for Others   |   | Isolates for Self  |   | Can Not Isolate   |   |
| Type of Isolation | Individual Isolation → |    |   |     |    |    |   |
|                   |                        |   |   | Each Isolated Point  |   |   |   |
|                   | Group Isolation →      |   |   |    |   |   |   |
|                   |                        | Each Isolated Point   |   | Each Isolated Point  |   | Each Isolated Point   |   |
|                   | Lock Box →             |  |  |  |   |  |   |
|                   |                        | Each Isolated Point   |   |  |   |   |   |
|                   |                        |  |  |   |  |  |  |
|                   |                        | The Lock Box  |   | The Lock Box   |   | The Lock Box  |   |

### NOTE:

Lock Holder: (Red Personal Lock & PDT) – cannot isolate, requires a Group Isolator (Orange Lock & tag) to do the isolation Individual Isolator: (Red Lock & PDT) – Can only isolate for themselves and only up to 6 isolation points.



Group Isolator:

(Orange Lock & tags) isolates up to 6 isolation points for Lock Holders (Red Personal Lock & PDT) or;



(Blue Lock on Lock Box & Orange Lock Orange tags) for Lock Box isolation points when greater than 6 isolation points, for Individual Isolators and Lock Holders who lock onto the Lock box (Red Personal Lock & PDT).






## 6. LOCK AND TAG TABLE

| Tag / Hardware   | Use   |
|--|---|
| <p><b>Information Tag</b></p>  <p>A tag which is white with blue writing that is used to display written general information about an item or situation and may also be used to convey equipment status that may not warrant a Yellow Out of Service Tag.</p> | <p>This tag may be used to identify and label components such as, hydraulic lines, electrical wiring, air and water lines during maintenance or installation, on Caution or Danger tape or barricading to explain the reason for the barricade or tape and the name of the contact person.</p> <p>The tag must be printed legibly and clearly visible with the required details at all times.</p> <p>You must destroy the information tag after removal.</p>  |
| <p><b>Out of Service Tag (OOS)</b></p>  <p>A yellow and black notification tag informing that the equipment item shall not be used until cleared for safe operation by a Competent Person.</p>  | <p>The OOS Tag indicates that equipment may be faulty, in need of repair or inspection and that damage may occur if the equipment is utilised. It may be placed on an isolation point where maintenance work is incomplete and when there is a risk to equipment if it is started or operated prior to it being repaired or disposed of.</p> <p>This tag may be placed by anyone, but can only be removed by a Competent Person (person assigned to repair / assess item). An OOS Tag does not provide personal protection.</p> <p>The tag must be printed legibly and clearly visible with the required details at all times.</p> <p>You must destroy the OOS tag after removal.</p> |


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| Tag / Hardware  | Use  |
|---|--|
| <p><b>Personal Danger Tag (PDT)</b></p>  <p>A red and white tag used to identify and protect an individual that is working or cleaning an isolated piece of equipment when used in conjunction with a Red Personal Lock and an effective isolation device.</p> | <p>A PDT is used by a single person in conjunction with a Red Personal Lock.</p> <p>The purpose of the PDT is to inform others that the person named on the tag is working on a task that requires the Isolation Point (to which the Tag is attached) to remain isolated.</p> <p>Each person must attach their own Red Personal Lock and PDT. The Red Personal Lock and PDT is only placed and removed by the person whose name appears on the PDT.</p> <p>The PDT shall be scribed with the full name of the person, phone contact, be dated, have the required details of the isolation and be secured to your Red Personal Lock.</p> <p>Each person must remove their own Red Personal Lock and PDT on the completion of the job, or completion of their component of the work, and at the end of the shift before they leave site.</p> <p>A disposable PDT shall be destroyed when the task / work has been completed for the shift.</p> |
| <p><b>Red Personal Lock</b></p>  <p>A Red Personal Lock used in conjunction with a Personal Danger Tag (PDT) to protect an individual that is working or cleaning an isolated piece of equipment.</p> <p>(Lockwood Red Personal Locks)</p>                   | <p>The Red Personal Lock and PDT is placed on de-energised plant or equipment before a person begins a task and whenever there is danger of personal injury from unexpected operation, movement or release of energy from plant or equipment.</p> <p>Red Personal Locks and PDT must only be fixed to isolation points once de-energised is in effect or to an effective isolation device that has been applied and a zero energy state exists. Locks and keys shall NOT be swapped between personnel including the duplication of keys.</p> <p>A person's Red Personal Lock and PDT must be removed on the completion of the job, on completion of their component of the work, at the end of the shift, before they leave site.</p>  |

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| Tag / Hardware   | Use   |
|--|---|
| <b>Isolation Device (example)</b><br>                         | <p>An Isolation device is typically manufactured with two opposing plates and clip hooks, or one dual plate with a clip hook, with holes in the plate for the attachment of Red Personal Locks or an Orange Isolation Lock.</p> <p>It is attached to an isolation point by an Individual Isolator prior to them applying their own Red Personal Lock and PDT, or by a Group Isolator prior to the placement of an Orange Confirmation Tag and Orange Isolation Lock, or Blue Lock Box Locks where there may be a number of active Lock Boxes sharing a common isolation.</p> <p>This Isolation Device will not be placed on an Isolation Lock Box.</p>  |
| <b>Orange Isolation Tag &amp; Orange Isolation Lock</b><br> | <p>The Orange Isolation Tag is placed by a Group Isolator onto an Orange Isolation Lock at the point(s) of isolation where a Lock Out Device is used and on an Isolation Locking Device or a Lock Box(s) when used to verify that the isolation has been undertaken and a zero energy state exists or the energy state for mechanical or potential stored energy sources is controlled, for third parties to work on.</p> <p>It indicates to all individuals, who did not personally perform the isolation, that energy has been released or controlled and the isolation has been completed and confirmed.</p> <p>Orange Isolation Tags and Locks shall only be applied by authorised competent Group Isolators.</p> <p><b>NOTE:</b> Where equipment / plant cannot be returned to service an Out of Service Tag maybe attached to Orange Isolation Tag and Orange Isolation Lock to provide additional protection and remain attached to the isolation point.</p> |
| <b>Blue Lock Box Locks</b><br>                              | <p>Consisting of one (1) Blue Lock Box Lock which is applied in conjunction with Orange Isolation Tag by the Group Isolator to the lock box for the purposes of a multiple point / Lock Box isolation.</p> <p>The Blue Lock Box Key is then stored in a lockable "E Key" cabinet.</p> <p>Blue Locks shall only be applied by competent Group Isolators and used in a Lock Box type Isolation.</p>   |

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| Tag / Hardware   | Use  |
|--|--|
| <b>Isolation Confirmation Permit (D16/442)</b>   | This form is used by a Group Isolator to record the details of the isolations and is used to verify that isolations have been performed correctly by another Group Isolator. The Isolation Confirmation Permit shall be secured in the "Lock Box". This documents the isolations and de-isolation processes.   |
| <b>Lock Box Sign On Sign Off Form (D16/442)</b>  | This form is used in conjunction with the Isolation Confirmation Permit, where personnel sign onto, and off when working under the protection of a Lock Box. This documents the isolations, handover and the sign on / sign off processes.   |
| <b>Blue Commissioning &amp; Test Tag</b><br> | <p>This tag is applied in conjunction with an approved Commissioning / Test Control Sheet (D16/7720) and is administered by a Group Isolator to indicate fault finding, equipment / plant being tested, calibration or undergoing a commissioning phase.</p> <p>The Blue Commissioning &amp; Test Tag can be attached to barricading preventing access to an area and isolation points or equipment by a competent Group Isolator.</p> |

### 7. ISOLATION TYPES

To establish a safe system of work, isolations shall be managed by the means of Individual or Group Isolations which will be determined by the Responsible Person. This shall apply to fixed or mobile plant and equipment that requires, but not limited to:

- Cleaning or for clearing purposes;
- Items that have been taken out of service for repairs and or maintenance;
- Periodic and planned maintenance; or
- For new installations.

Individual or Group Isolation shall follow the below principle process:

- **Shutdown** (Switch / shut off energy source);
- **Isolate** (Removal of all energy sources and / or prevention of energy release);
- **Isolation Device** (i.e. Locking Device or Lock Box);
- **Lock out / Tag out** (Correct Lock and Tag); and
- **Test** (Test / try - verify a zero energy state).

## 7.1. Individual Isolation

The following points identify the minimum isolation requirements for an Authorised Individual Isolation:

1. Identify all energy sources and hazards by conducting a Risk Assessment.
2. Shutdown of the plant / equipment / service.
3. Control other potential hazards in the area.
4. Isolate and Lock out all energy sources.
5. Release / secure any stored energy:
  - Where there is potential for plant to hold mechanical or stored energy a mechanical locking device suitably designed to control stored energy must be fitted prior to attaching a Red Personal Lock and PDT. For example conveyors, chute diverters, positioners, belt clamps, gravity take up towers (GTUs) / counterweight, fluid lines;
  - Attempt to operate the plant / equipment, start controls (Test);
  - Test the equipment or process by using appropriate test equipment and / or visual inspection (ensure valves are clear / closed, lines have been drained);
  - **See Section 7.3.2 Confirmation Check of Isolations for more detail. (Test 1 to 3)**
6. Isolate and Lock out – each person working on the plant / equipment must apply their own Red Personal Lock with their own Personal Danger Tag (PDT) to each isolation point (Lock out / Tag out).
7. Once work is completed, each individual working on the plant / equipment shall remove their own Red Personal Lock and PDT from each isolation point before the plant is returned to operational status.
8. Inform the Responsible Person, that all isolations have been removed and that the equipment / plant has been returned to operational status; and
9. If work remains incomplete at the end of shift, Red Personal Locks / PDT shall be removed and an Out of Service (OOS) tag(s) shall be placed on the equipment to indicate its service status.

### 7.1.1. Heavy Vehicles and Surface Mobile Equipment

When performing maintenance activities for all Heavy Vehicles and Surface Mobile Equipment, the equipment shall be isolated.

Persons holding an Individual or Group Isolator status shall isolate Heavy Vehicles and Surface Mobile Equipment at the main battery isolator with an approved isolation device along with the required Red Personal Locks and Personal Danger tags.

### 7.1.2. Light Vehicles

When performing maintenance activities on light vehicles, as a minimum the isolation shall consist of a battery terminal separation via a lock out device, Red Personal Lock and a completed Personal Danger Tag.

When performing pre-start checks on light vehicles, the keys are to be physically held by the person performing the check, and the doors to the vehicle locked after opening the bonnet.

### 7.1.3. Marine Vessels

When performing maintenance activities where there is the potential for entanglement or unplanned energisation, persons holding an Individual or Group Isolator status shall isolate the



vessel at the battery isolator where fitted or use a battery terminal separation via an approved isolation device with a Red Personal Lock and a Personal Danger Tag.

### 7.2. Group Isolations

The following steps identify the minimum isolation requirements for a Group Isolation:

1. Identify all energy sources and hazards by conducting a Risk Assessment.
2. Shut the plant down (planned) / plant has shut down unexpectedly (unplanned).
3. The Responsible Person shall inform the affected personnel – both internal and external.
4. Control other potential hazards in the area.
5. Isolate and Lock out all energy sources.
6. Release and secure any stored energy:
  - Where there is potential for plant to hold mechanical or stored energy, a mechanical locking device suitably designed to control stored energy must be fitted prior to attaching an Orange Lock / Blue Lock Box Lock and Orange Isolation Tag. For example conveyors, chute diverters, gravity take up towers (GTUs) / counterweights, positioners and belt clamps.
  - Attempt to operate the plant / equipment start controls (Test).
  - Test the equipment or process by using appropriate test equipment and / or visual inspection (ensure valves are clear / closed, lines have been drained).
  - **See Section 7.3.2 Confirmation Check of Isolations for more detail. (Test 1 to 3)**
7. Each person working on the equipment / plant must apply their Red Personal Lock complete with their PDT to the designated Isolation Point which would be either an Isolation device or a Lock Box.
8. The Lock Box is where the key from the Blue Lock Box locks are secured within, along with all unused Blue Lock Box Locks that are not used in the isolation, by an Orange Isolation Lock and Orange Isolation Tag. A completed Isolation Confirmation Permit listing all the required isolations shall also be placed in the Lock Box to clearly identify which isolations have been applied. A Lock Box Sign On/Sign Off form shall also be attached to the front of the Lock Box.
9. Where the Group Isolators who performed the isolations are required to work on the plant / equipment, they will also be required to apply their own Red Personal Lock and PDT to Isolation device or the Lock Box;
10. Once work is completed, each person working on the plant / equipment shall remove their own Red Personal Lock and PDT from the designated Isolation Point;
11. The Group Isolators (1 & 2) shall then remove the Orange Isolation Lock and Tag, take the Blue Lock Box Locks key from inside the Lock Box and remove the isolations per the Isolation Confirmation Form requirements "Restoration", before the plant is returned to operational status; and
12. The Group Isolators (1 & 2) shall then inform the Responsible Person that all isolation(s) have been removed and equipment / plant has been returned to operational status.
13. If work remains incomplete at the end of shift, Red Personal Locks / PDT shall be removed and an Out of Service (OOS) tag(s) shall be placed on the equipment to indicate its service status which can be attached to the Orange Isolation Tag and Orange Isolation Lock to provide additional protection.

### 7.2.1. Removal of another person's Red Personal Locks / Personal Danger Tags

A Red Personal Lock and Personal Danger Tag (PDT) Removal Form must be completed and approved before any action is taken to remove another person's Red Personal Lock and PDT, or before cutting any lock associated with the isolation system. This will apply to:

- Where an individual cannot return to site to remove their own Red Personal Lock and PDT; or
- Where a key cannot be used to open any lock used as part of the isolation process, (including Red Personal Lock, Orange Isolation Lock or Blue Lock Box Lock). This includes the removal of a Red Personal Lock by the owner (you may NOT cut your own lock off without approval from the Regional Manager or their delegate).

If another person's PDT is accidentally removed, the following procedure shall apply:

- A replacement PDT is to be completed with the replacing person's details on the tag and reattached to the isolation point. It shall be clearly marked as a REPLACEMENT;
- The relevant supervisor is to be notified immediately;
- The person whose PDT was removed by mistake must be located and asked to complete another PDT; and
- Only then is the replacement PDT to be removed.

### 7.3. Lock Box

A uniquely labelled red box that is lockable with a transparent lid and which generally contains one (1) Blue Lock Box lock and key and 6 Orange Isolation Locks, and stores paperwork for group isolations.

The Lock box is used for multiple isolations in shutdowns or during plant and equipment overhauls and can also be used for commissioning purposes.

The Lock Box is designed to provide a 'Safe System of Work' for situations where many persons are working on a task, or a task which has many isolation points.

#### 7.3.1. Conducting a Lock Box Isolation

An Orange Lock Box Lock and the Orange Isolation Tag must be attached to each of the nominated isolation points as per the Isolation Confirmation Permit Section Switching Procedure by two Group Isolators simultaneously where one will be nominated as Group Isolator 1 and the other as Group Isolator 2.

Group Isolator 1 must sign the "Group Isolator 1" column on the Isolation Confirmation Permit as each of the nominated isolations is completed.

Group Isolator 2 must verify each of the nominated isolations by the means of reviewing that the isolations have been completed and confirmed against the Isolation Confirmation Permit, Section "Switching Procedure" that the plant / equipment is now at a zero energy state by signing in the "Group Isolator 2" column.

The Isolation Confirmation Permit shall then be placed in the Lock Box and be placed so that it is completely visible at all times. The key to the Orange Lock Box Locks must also be kept inside the Lock Box. This permit defines all the isolation points contained within the Lock Box and is used as critical references for any person using the Lock Box as the isolation point.

Group Isolator 1 must then lock the Lock Box by placing an Orange Isolation Lock and an Orange Isolation Tag without a Locking Device onto the Lock Box confirming that all isolations contained within the Lockbox have been confirmed and witnessed.

Group Isolator 1 will then complete a Lock Box Sign on Sign off form and attach it to the Lock Box. All personnel working under the Lock Box isolation process shall sign onto the form, under

the witness of Group Isolator 1, before proceeding into the work area.

On completion of their works or at the end of their shift, before they leave site, personnel working under the Lock Box isolation shall sign off on the form Lock Box Sign on Sign off form, once they have removed their Red Personal Lock and PDT.

### 7.3.2. Confirmation Check of Isolations

A test / try for confirmation of a zero energy state of the plant / equipment must be performed and is considered a key step in confirming a **zero energy state or control** of mechanical or potential stored energy.

The Group Isolator, shall perform either one or a combination of the following tests in order to determine if all energy associated with that isolation has been released or secured:

**TEST 1** - Check if there is a visual indication that the equipment has been de-energised (e.g. physical separation of the isolator or plug and socket). If there is a positive visual indication conduct the following:

- **Individual Isolators** – Place your Red Personal Lock and PDT.
- **Group Isolators** – Complete an Orange Isolation Tag & Lock to the isolation point. If there is no visual indication of de-energisation, perform Test 2.

**TEST 2** - Check the phase lights or appropriate instrumentation. All phase lights must be observed to go from **On to Off** – if a light has failed, this check must not be used until all lights are operational. Where instrumentation is used as an isolation test, it must provide a confirmation that energy has been released and there is no residual energy in the system being de-energised. If the test provides adequate confirmation that there is no residual energy, conduct the following:

- **Individual Isolators** – Place your Red Personal Lock and PDT.
- **Group Isolators** – Complete an Orange Isolation Tag & Lock to the isolation point. If there is no positive indication of de-energisation, perform Test 3.

**TEST 3** - Where Test 1 and 2 do not provide adequate confirmation of isolation, the appropriate energy source must be physically measured and appropriately drained of residual energy, for example, voltage or pressure measurements. It is the responsibility of the person performing the de-energisation to ensure that energy has been released or drained appropriately prior to the following being conducted:

- **Individual Isolators** – Placement of your Red Personal Lock and PDT.
- **Group Isolators** – Completing an Orange Isolation Tag & Lock to the isolation point.

Where bleeding of valves, hydraulic lines are required, the appropriate process must be followed prior to the placement of the Orange Isolation Tag and Lock.

Where there is potential for plant to hold mechanical or stored energy a mechanical locking device suitably designed to control stored energy must be fitted prior to the placement of the Orange Isolation Tag and Lock. For example conveyors, chute diverters, positioners, belt clamps, gravity take up towers (GTUs) / counterweight, fluid lines

Where plant / equipment consists of multiple systems which may store energy, only the energy sources that have been isolated and confirmed will be documented on the Isolation Confirmation Permit.

### 7.3.3. Red Personal Lock and PDT on a Lock Box

Any person working under the protection of the Lock Box must ensure that all plant and equipment requiring isolation for their task is listed on the Isolation Confirmation Permit Section



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Switching Procedure and that all isolations have been signed by the Group Isolators 1 & 2 before attaching their Red Personal Lock and PDT.

The Group Isolator 1 shall witness all persons applying their Red Personal Lock and PDT onto the Lock Box and check that they understand what has been isolated.

Each person in the workgroup must fix their Red Personal Lock and PDT onto the Lock Box which is considered as the Isolation point. Red Personal Locks and PDT must only be fixed to isolation points that have an Orange Confirmation Tag and Lock attached.

A Lock Box must not be used when a Group Isolator is not available on site.

### 7.3.4. Field Checks

Prior to starting a task, each person in the workgroup must walk the task and verify that the Isolation Points where they have placed their Red Personal Lock and PDT match the Isolation List and the plant or equipment labelling.

The required work tasks can then commence on the isolated equipment by each individual of the work group who have placed their Red Personal Lock and PDT on the required Lock Box.

### 7.3.5. Change of Shift Requirements for a Lock Box

Where the Lock Box is to be used on the next shift, the Group Isolator 1 must sign over the Lock Box key to the incoming Group Isolator 1 on the Lock Box Sign On Sign Off form Section "Sign Over Details".

The incoming Group Isolator 1 must verify the isolated points against the Isolation Confirmation Permit, that the Orange Isolation Lock and an Orange Isolation Tag is attached to the Lock Box and that the permit is correctly filled out and attached.

If there is no Group Isolator 1 available, the Lock Box must not be used and the Isolation Confirmation Permit must be cancelled.

At the completion of the task, or at a shift change, the workgroup must remove their Red Personal Lock and PDT without disturbing any other Red Personal Locks and PDTs that may still be attached to the Lock Box.

### 7.3.6. Close Out of a Lock Box and Isolation Confirmation Permit

When all the Red Personal Locks and PDT are removed from the Lock Box, and all persons have signed off their tasks as complete, the Lock Box can be closed out.

The Group Isolator 1 may then open the Lock Box and along with the Group Isolator 2 must then manage the removal of all the Blue Lock Box Locks and Orange Isolation Tags from the individual isolation points in ready to de-isolate the plant / equipment.

On completion of the above the Group Isolator 1 and 2 must then sign the Isolation Confirmation Permit to cancel the Lockbox Section Cancellation of Permit and advise the Area Supervisor that the plant or equipment is ready to be re-energised.

### 7.3.7. Changes to a Lock Box

When an isolation point within an established Lock Box requires energising and de-energising due to scheduled maintenance / shutdown phase the following actions must be taken:

- The Lock Box is opened after all Red Personal Locks and PDT have been removed;
- The Lock Box is only to be reinstated when the isolation point(s) have been de-energised, confirmed and the Lock Box Lock and Tag have been reattached by the same Group Isolator 1 and Group Isolator 2 who removed the original isolation; and
- A record of this change must be made on the Isolation Confirmation Permit. This shall be

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achieved by initialing the respective isolation(s) in Section, Switching Procedure list identifying that the isolation(s) have been restored and verified; and

- Group Isolator 1 must then relock the Lock Box by placing an Orange Isolation Lock and an Orange Isolation Tag without a Locking Device onto the Lock Box confirming that all isolations contained within the Lockbox have been reconfirmed and witnessed.

The Lock Box is now active again without any need to change Lockbox numbers.

If any isolation points are removed or new isolation points are added the Lock Box must be cancelled and a new Isolation Confirmation Permit must be raised.

### 7.4. Commissioning Phase (Testing / Control)

The Commissioning Phase is used to administratively manage the risk associated with all fixed or mobile equipment that cannot be fully isolated to achieve a zero energy state, during either a testing, fault finding, calibrating or commissioning phase where there is a need to control the number of persons in an area due to the potential for uncontrolled energy releases.

The Group Isolator is the only person who can place a Blue Commissioning & Test Tag on plant, equipment or an isolation point in conjunction with a Commissioning / Testing Control Sheet.

Unless authorised by the Group Isolator, only one task may be performed at a time on any plant, equipment or isolation point(s) while under the Commissioning Phase.

The purpose of the Commissioning Phase is to:

- Restrict access to equipment / plant that is live and operating, while specialist tasks are being conducted e.g. fault finding, equipment being tested, calibrated or commissioned;
- Provide restricted access to de-energised equipment to prevent others applying their Red Personal Locks and PDT if not associated with a task; and
- Restrict access by other persons to areas where an energy source or hazard may not be controlled inside the barricaded area.

**NOTE: The Commissioning Phase must NOT be used to manage or control an energy source where a Red Personal Lock and PDT will best control the operation of plant or equipment. The Commissioning Phase alone does NOT provide personal protection, it must be used in conjunction with a Risk Assessment and a Control Plan that details the process that is to be undertaken.**

#### 7.4.1. Confirmation of the Commissioning Phase

The Group Isolator must determine if the energy sources are to be energised or de-energised and enter the details of the nature of the tasks requiring the Commissioning Phase and their full contact details onto the Commissioning / Testing Control Sheet.

A Blue Commissioning & Test Tag must be attached to the plant / equipment in a secure manner. If the energy source is to be de-energised, the Group isolator must ensure the isolations are performed as per the requirements within this procedure.

If the energy source is not to be de-energised, the Group isolator must enter the details on the Commissioning / Testing Control Sheet and place a Blue Commissioning & Test Tag onto the isolation points and onto suitable established barricading restricting access to the area.

#### 7.4.2. Commissioning Phase Requirements

In the event that equipment relevant to the Commissioning Phase requires energising, operating and then de-energising again, or vice versa, the Group Isolator must check that the Risk Assessment and Control Plan for the works and that the Commissioning / Testing Control Sheet, to ensure that risk controls are adequate and are still applicable to the intended energise / de-

energise phase for the area.

The Group Isolator must be present on site or contactable for the period of time that the Commissioning Phase is in place. All persons associated with the task must work at all times under the instruction and control of the Group Isolator.

Access to Commissioning areas is limited to those individuals signed on to the Commissioning / Testing Control Sheet.

Red Personal Locks and PDT must not be placed on an isolation point which has been placed under a Commissioning Phase unless directed by the Group Isolator.

Individuals may leave and return to a controlled Commissioning Phase area while remaining signed on, with the permission of the Group Isolator. All individuals must sign off on the Commissioning / Testing Control Sheet at the end of each shift or at the end of their assigned task.

Where a person is required to join the workgroup after the area is considered to be under a Commissioning phase, that person must contact the Group Isolator and will need to review, understand the Control Plan and sign on to the completed Risk Assessment (i.e. JHA) and they must follow all the controls as per the Risk Assessment and sign on to the Commissioning / Testing Control Sheet.

### 7.4.3. Completion of the Commissioning Phase

At the end of the Commissioning Phase, the Group Isolator shall check that all members of the workgroup are signed off from the Commissioning / Testing Control Sheet before removing the Blue Commissioning & Test Tag(s) from the barricades and plant / equipment and advise the Area Supervisor that the plant or equipment is ready for operation.

## 8. DEFINITIONS

| Definition                            | Meaning  |
|---------------------------------------|--|
| Commissioning Phase Testing / Control | Is not limited to commissioning, but may also include testing, fault finding, bridging, calibrating and tracking.  |
| Control Plan                          | A document that establishes the standards, controls and guidelines that apply to a workgroup when undertaking tasks in a Commissioning Phase. The detail of the Control Plan will be determined by the complexity of the works asserted by a risk assessment during the planning process. For example, a shutdown where a group of people are working on different activities in the same work area, the plan may be set out in the form of a Gantt Chart. |
| Employees                             | Any person working for Southern Ports or under a contract of employment, apprenticeship or other agreement thus including contractors, sub-contractors and vendors.  |
| Heavy Vehicles (HV)                   | Trucks and buses that are designed for use on public roads such as, rigid and articulated trucks greater than 4.5 tonnes (including associated trailers) and buses (over 12 seats). Also included in this category but not limited to are forklifts, backhoes, skid steer loaders, prime movers, mobile cranes and integrated tool carriers fitted with an attachment not designed for earthmoving.  |

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| Definition                     | Meaning  |
|--------------------------------|--|
| High Voltage                   | As defined in AS3000 or Mine Safety and Inspection Act 1994 (WA).  |
| Isolate / Isolation            | Disconnect / barricade and lock / secure of all energy sources to achieve a zero energy state to a piece of plant / equipment or system (associated with a task).  |
| Isolation Point                | Primary points on equipment / Plant used to remove potential stored energy, for example Main isolation switch, plug or restraint point.  |
| Light Vehicle (LV)             | Includes, but are not limited to - a motor vehicle that can be registered for use on a public road under 4.5 tonnes gross vehicle mass (GVM).  |
| Lockout Device                 | A device that has the means to physically isolate hazardous energy sources which includes but is not limited to a padlock, slip-plate, chain or other physical devices to facilitate the fitment of a Locking Device for person(s) to lockout energy source(s).  |
| Responsible Person             | The person who has functional control of the workplace / area, for example Terminal Supervisor, Maintenance Supervisor, Person in Charge.  |
| Risk Assessment (RA)           | Can include but not limited to a Risk Assessment Workshop (RAW), Job Hazard Analysis (JHA), Stop and Think or a combination of, for the purposes of identifying hazards and the required controls to minimise risk to safety, health, environment and community. |
| Safe System of Work (SSOW)     | Comprises of four elements (Planning, Equipment, Change and People) which are interrelated / integrated and that are dependent upon each other to ensure that a safe system is maintained at the workplace.  |
| Shall                          | Mandatory  |
| Should                         | Recommended  |
| Surface Mobile Equipment (SME) | Self-propelled mobile equipment for surface operations such as container forklifts and equipment that is primarily intended for bulk earthmoving and not primarily designed for use on public roads.   |

### 9. RESPONSIBILITIES

| Role   | Responsibility  |
|--|---|
| Regional Manager,<br>Registered Manager,<br>Workplace Controller | <p>Has the following obligation under this procedure;</p> <ul style="list-style-type: none"> <li>• Implementation of its requirements.</li> <li>• Ensure that a Risk Assessment process is undertaken.</li> <li>• Provide adequate planning, training, safe equipment, competent supervision, leadership and control for the activity.</li> </ul>   |
| Managers and Supervisors   | <p>Has the following obligation under this procedure;</p> <ul style="list-style-type: none"> <li>• Facilitate and verify that a documented Safe System of Work (SSOW) is established, which identifies associated hazards and controls to minimises risk to health, safety and environment.</li> <li>• Ensure that the required approved and authorised permit(s) where required have been issued.</li> <li>• Ensure that all team members fully understand their obligations of this Isolation and Tagging Procedure D16/695.</li> <li>• Ensure there is safe access / egress, approved serviceable plant, equipment, tooling and hazardous substances.</li> <li>• Verify that employees are competent to perform their duties by evidence of training and / or assessment.</li> <li>• Regularly monitor and assess the workplace for compliance.</li> </ul> |
| Employees  | <p>Has the following obligation under this procedure;</p> <ul style="list-style-type: none"> <li>• Engage with the supervisor in the process of establishing a documented Safe System of Work (SSOW) that minimises risk to health, safety and environment.</li> <li>• Act responsibly and perform their work in accordance with this standard and the established SSOW.</li> <li>• Understand their obligations of this Isolation and Tagging Procedure D16/695.</li> <li>• Take reasonable care to protect the health and safety of themselves and others, and to protect the environment.</li> <li>• Report all injuries, incidents and hazards to the supervisor.</li> <li>• Only carry out tasks that they have been verified and authorised to do so through training and or assessment.</li> </ul>   |

## **10. REFERENCES**

### **10.1. External**

- Mines Safety and Inspection Act 1994 (WA)
- Mines Safety and Inspection Regulations 1995 (WA)
- Occupational Safety and Health Act 1984 (WA)
- Occupational Safety and Health Regulations 1996 (WA)
- Electricity Act 1945 (WA)
- Electricity Regulations 1947 (WA)
- AS/NZ 3000, Wiring Rules.
- Isolation of Hazardous Energies Associated with Plant in WA Mining Operations – Guideline
- Department of Commerce Western Australia – guidance note: Isolation of Plant 2010

### **10.2. Internal**

- Isolation Confirmation Permit
- Lock Box Sign on Sign off
- Commissioning / Testing Control Sheet
- Personal Danger Tag Removal Authorisation
- Electrical Procedure – Low Voltage Work Practices
- Signage Standard
- Register - Appointed Group Isolators.
- Isolation Guides