



SOUTHERN PORTS

ALBANY BUNBURY ESPERANCE

Current – Retiring 05/04/2026

**ISOLATION AND TAGGING
PROCEDURE**

PORT OF BUNBURY

DOCUMENT CONTROL

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AUDIT

This procedure shall be reviewed / revised

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

TABLE OF CONTENTS

DOCUMENT CONTROL.....	2
AUDIT	2
1. OBJECTIVE	6
2. GENERAL INFORMATION and SCOPE	6
3. RESPONSIBILITIES	6
4. PROCEDURE	7
5. TYPES OF ISOLATION	7
5.1. Personal Lock Isolation	7
5.1.1. <i>Working under Personal Lock Isolations</i>	8
5.2. Group Isolation.....	8
5.2.1. <i>Working under Group Isolation</i>	8
5.2.2. <i>Signing onto and off Group Isolations</i>	8
6. ISOLATION PROCESS.....	8
6.1. Planning the Isolation	8
6.1.1. <i>Identify all Potential Energy Sources</i>	9
6.2. Setting the Isolation.....	9
6.2.1. <i>Personal Lock Isolations</i>	9
6.2.2. <i>Group Isolations</i>	9
6.3. Proving the Isolation.....	9
6.4. Locking the isolation.....	9
6.4.1. <i>When Use of a Locking Device is Not Feasible</i>	9
6.5. Group Isolation Documentation and Security.....	9
6.6. If a Proven Isolation isn't achieved	10
7. OTHER ISOLATION CONSIDERATIONS.....	10

Isolation and Tagging Procedure – Port of Bunbury

7.1.	Linking Multiple Isolation Points.....	10
7.2.	Automated Isolation Devices	10
7.3.	Conveyor Belt Isolations.....	10
7.4.	Confined Space Isolations.....	11
7.5.	Pneumatic Isolations	11
7.6.	Cargo Contamination Prevention.....	11
8.	COMMISSIONING AND TESTING.....	11
9.	PLACING EQUIPMENT OUT-OF-SERVICE	12
10.	MOTHBALLING EQUIPMENT	13
11.	UNLOCKING OF EQUIPMENT	13
12.	ISOLATION OF MOBILE EQUIPMENT AND LIGHT VEHICLES.....	13
12.1.	Safely Parking and Immobilising Mobile Equipment and Light Vehicles.....	13
12.2.	Perform Light Vehicle Isolation	13
12.3.	Determine Isolation Approach – Mobile Equipment	13
12.4.	Fault-finding without isolation	14
12.5.	Testing of Mobile Equipment or Light Vehicles	14
13.	WORKING ON LIVE EQUIPMENT.....	14
14.	REMOVAL OF ANOTHER PERSON’S PERSONAL LOCKS / TAGS.....	15
15.	REGIONAL MANAGER or EQUIVALENT AUTHORITY	15
16.	TRAINING AND COMPETENCE.....	15
17.	AUDITING REQUIREMENTS	15
18.	RELATED LEGISLATION AND DOCUMENTS	15
19.	DEFINITIONS	16
20.	APPENDICES	17
	APPENDIX 1 - ENERGIES TO BE ISOLATED	17

APPENDIX 2 - METHODS OF PROVING ISOLATIONS.....	18
APPENDIX 3 - ISOLATION AND TAGGING HARDWARE	22
APPENDIX 4 - ISOLATION AND TAGGING TRAINING AND COMPETENCY MATRIX.....	27
APPENDIX 5 - COMPETENCY / ROLE MATRIX.....	28
APPENDIX 6 - WORKING ON LIVE EQUIPMENT PERMIT	29
APPENDIX 7 - CHANGE REQUEST FORM	30
APPENDIX 8 - ISOLATION COMMISSIONING TESTING CONTROL SHEET	31
APPENDIX 9 - PERSONAL DANGER TAG & LOCK REMOVAL AUTHORISATION.....	33
APPENDIX 10 – ISOLATION CONFIRMATION PERMIT	34
APPENDIX 11 - LOCKBOX SIGN ON/OFF.....	36

1. OBJECTIVE

This procedure documents the process while performing works for conducting isolation, lockout and tagging in order to protect persons from the uncontrolled release of energy where it has been demonstrated that under current conditions all forms of energy have been removed within a defined boundary.

2. GENERAL INFORMATION and SCOPE

Isolation is the process of:

- Planning how all energy sources will be identified, isolated and de-isolated;
- Setting the isolation of all energy sources (switching off, closing, installing a barrier);
- Proving that all isolations are effective; and
- Locking every isolation to prevent unintended removal.

This procedure applies to all isolation, lock out and tagging activities conducted by Southern Ports, Bunbury, and includes the interaction with the Authorisation to Work system.

Requirements for the isolation and switching of High Voltage electrical devices are NOT covered under this procedure ie voltages above 1000VAC / 1500VDC. Refer to the SP procedure High Voltage Electrical Isolation and Access.

3. RESPONSIBILITIES

Role	Responsibility
Regional Manager	<ul style="list-style-type: none"> • Ensure an effective system is implemented consistent with this procedure. • Appoint Group Isolators.
Authorisation to Work (ATW) Issuer (SPA-BUNBURY-only role)	<ul style="list-style-type: none"> • Manage all aspects of Lockbox access and security. • Where there is an associated Isolation, confirm that the Scope of Work can take place within the original intent and boundary of the isolation. • Communicate with Group Isolators and authorise the unlocking of equipment.
Group Isolator	<ul style="list-style-type: none"> • Have a clear understanding of the scope-of-work. • Planning, setting and proving an isolation, locking of isolation points and for the preparation and issue of the Lockbox Permit. • Remove isolation locks from isolation points and sign off the Lockbox Permit.
Isolation Verifier	<ul style="list-style-type: none"> • Verify the isolation plan is appropriate for the scope-of-work. • Witness the setting, proving and locking of all isolation points listed on the Lockbox Permit. • Ensure all isolation points listed are completed. <p>Note – High Voltage (HV) isolations must be verified by a HV qualified electrical technician.</p>

Isolation and Tagging Procedure – Port of Bunbury

Personal Lock Isolator	<ul style="list-style-type: none"> • Have a clear understanding of the scope-of-work. • Planning the isolation and setting, proving and locking each isolation point. • If working as a pair, ensure the planning, setting and proving activity is a joint exercise.
Recipient	<ul style="list-style-type: none"> • Ensure all Work Group members sign on and lock on to the correct Lockbox. • Liaise with the ATW Issuer for all Isolation interactions as described in this procedure eg Commissioning and Testing.
Personal Lock Holder	<ul style="list-style-type: none"> • Ensure that work does not commence until an ATW is obtained and Personal Locks are in place where required. • Ensure Personal Locks are removed when no longer working on the scope-of-work. • Never interfere with anyone else’s Personal Lock(s) or Tag(s).
Work Group Supervisor	<ul style="list-style-type: none"> • Ensure the Work Group has and understands the Scope of Work. • Ensure competencies of all Work Group members are appropriate for the scope-of-work and have been recorded and maintained.
Bunbury HSS Team	<ul style="list-style-type: none"> • Provide a framework (forms, schedules, reporting) to ensure random auditing of Isolation and Tagging system implementation.

4. PROCEDURE

Regardless of the people and methods involved, the objective of the Isolation process is to achieve a Proven Isolation.

A Proven Isolation is defined as follows:

“Where it has been demonstrated that under current conditions all forms of energy have been removed within a defined boundary.”

Eg Electrical disconnect (air gap), valve isolations, open and cleared drain valves, de-pressured hydraulics or pneumatics, empty and de-tensioned conveyor systems.

5. TYPES OF ISOLATION

5.1. Personal Lock Isolation

Personal Lock Isolations are isolations placed by an individual for their own use (maximum of 6 people per isolation) and secured using Personal Locks. They must only be used for regular, frequent tasks. The conditions of use are:

- People working under a Personal Lock isolation must place their own Personal Locks on all relevant isolation point locking devices once the isolation has been proven;
- A Proven Isolation must be able to be achieved with six (6) or less isolation points;
- The task must be started and completed within a single working shift;

Personal Lock isolations cannot be used:

- For Confined Space Entry a lockbox and associated permits are required.

If six (6) people will be working within the Isolation, they must agree on which energies and isolation points will be used and must be present to set the isolation and witness the proving process. They must place their Personal Locks on each isolation point using a scissor lock or alternate device.

5.1.1. Working under Personal Lock Isolations

Each work group member must:

- Ensure they understand the scope of work and isolation boundaries;
- If there is a potential for the work to extend past one (1) shift the isolation must be converted to a Group Isolation. Place an Out-of-Service Tag on the isolation point; and
- Remove their Personal Lock(s) from each isolation point when leaving end of shift.

Note: An Out-of-Service Lock and Tag must be applied. Refer Section 5 below.

5.2. Group Isolation

Isolations must be performed under a Group Isolation when:

- The isolation is required for a Confined Space Entry;
- More than six (6) locks are required for the isolation;
- More than two (6) people will be working under the isolation;
- The isolation is required to be in place for more than one (1) shift; or
- For any other reason seen as necessary for the scope-of-work to be performed under a Group Isolation.

Group Isolations are verified and documented as described in Section 2.5 below.

5.2.1. Working under Group Isolation

Once the ATW has been issued, each member of the Work Group must lock on to the Lockbox using their Personal Lock whilst they are working under the isolation. The Recipient is responsible for ensuring Work Group members lock on to the correct Lockbox.

Each Work Group member must:

- Ensure they understand the scope of work and isolation boundaries; and
- Request to view the isolation if required.

5.2.2. Signing onto and off Group Isolations

Each Work Group member must sign onto the Group Isolation using the Lock Box Sign On Sign Off Form Appendix 11 prior to commencing work, and sign-off the form when removing their Personal Lock and no longer working within the isolation.

6. ISOLATION PROCESS

Regardless of the type of isolation – Personal Lock or Group, the following steps shall be followed as part of the isolation process:

6.1. Planning the Isolation

The person developing the isolation plan must have sufficient understanding of:

- The reason and scope of work requiring the isolation;
- The boundaries within which the work will be performed - the boundaries should be as close as practical to the equipment to be worked on.

6.1.1. *Identify all Potential Energy Sources*

- Identify all potential energy sources as per Appendix 1;
- For each energy source:
 - Consider how each will be removed/controlled; and
 - Identify the isolation points and drain points (water/pneumatic/hydraulic):
- If necessary, use reference materials such as plant drawings;
- Where necessary, visually trace the piping from the equipment to the isolation points to confirm the accuracy of the isolation points.
- The correct timing and sequencing of isolations to ensure, for example, proving valves under working pressure.

6.2. **Setting the Isolation**

Setting the isolation is the process of placing each isolation point into its “energy barrier” state or position eg, switching off (creating an air gap), closing a valve, installing a pipe blind.

6.2.1. *Personal Lock Isolations*

For Personal Lock Isolations, the individual who will be working within the Isolation must perform this setting step. Should a second person be involved in the work, then they must witness this step also.

6.2.2. *Group Isolations*

For Group Isolations, this setting step must be performed by a Group Isolator and witnessed by a second competent Group Isolator.

6.3. **Proving the Isolation**

Once the isolation has been Set, it must be proven prior to being locked (as per proving methods in Appendix 2). Once a Proven Isolation has been confirmed, the isolation is ready for work to commence either as a Personal Lock Isolation, or as a Group Isolation.

6.4. **Locking the isolation**

All isolation points must be secured using a suitable locking device followed by the application of either a Personal Lock (Red), or an Isolation Lock (Orange) and Danger Tag to prevent accidental activation.

6.4.1. *When Use of a Locking Device is Not Feasible*

In circumstances where a locking device cannot be used, the Isolating person must ensure the isolation point is effectively guarded against accidental activation.

- Regardless of the method used, an Isolation Lock must be placed on the isolation point and listed on the Lockbox Permit (for Group Isolations).
- The Isolating person must raise a request for fitting of a suitable locking device prior to the next time the isolator is used for isolation.
- RM or Delegate must sign off the JHA before work commences.

6.5. **Group Isolation Documentation and Security**

For each isolation point, after the setting, proving and locking steps, both the Group Isolator and Isolation Verifier must initial the Lockbox Permit. Once the Isolation is complete:

- Both the Group Isolator and Isolation Verifier sign the Lockbox Permit..

- The Group Isolator will place the Permit and Isolation Lock (Orange) key inside the Lockbox and secure the box with a (Blue) Lockbox Lock. Access to these (Blue) Lockbox Lock keys is then the responsibility of the Group Isolator. These keys must be kept in a secure location that only the Group Isolator has access to.
- The Group Isolator will then place a Lock Box Sign On Sign Off Form onto the Lockbox.
- The Group Isolation is ready to accept ATW's and related Personal Locks.

6.6. If a Proven Isolation isn't achieved

Regardless of whether placing a Personal Lock or Group Isolation, if a Proven Isolation has not been achieved, the isolating person must report to the Area Supervisor to determine what options are available. The Isolation may be redesigned, or, in extreme cases, the Working on Live Equipment process may have to be requested. Refer Section 8 below.

7. OTHER ISOLATION CONSIDERATIONS

7.1. Linking Multiple Isolation Points

Isolation Locks may be used to secure multiple isolation points in conjunction with lanyards, locking bars or other devices provided the Group Isolator:

- Lists each isolation point (separately) on the Lockbox Permit along with its corresponding Isolation Lock number;
- Separately proves each isolation point; and
- Confirms the device used to secure the multiple points guards against the accidental activation of each individual isolation point.

7.2. Automated Isolation Devices

In instances where an isolation point is controlled by some type of automated actuator, eg hydraulic ram or pneumatic actuator, the isolation point itself should be engineered to allow direct locking in the isolated position. Only correctly rated mechanical devices such as secured pins, slings or chains must be used to secure these isolators.

- Where direct locking isn't available, the energy supply to the actuator must be isolated and locked and any residual energy dissipated. Any drains used must also be locked in the open position.
- Unless the energy supply is immediately adjacent to the actuating device, the device itself must have an identifier locked in place and included on the Lockbox Permit. The intention being, to prevent work being carried out on the actuator whilst the isolation is in place.

Note: Only automated devices that fail into the isolating position may be used as isolation points.

7.3. Conveyor Belt Isolations

When establishing isolation for conveyor belt maintenance that will require belt de-tensioning:

- a) Where the conveyor design allows for (in-built) de-tensioning the Group Isolator must lock the GTU in the de-tensioned position and include these points on the Lockbox Permit.
- b) If no isolation point a Risk Assessment must be completed

The Commissioning and Testing process (Section 4) must be utilised when:

- There is a need to move the belt; or
- The belt repair is complete and Isolation Lock removal is necessary to re-tension the belt, and to carry out belt testing.

7.4. Confined Space Isolations

- All points of isolation associated with a Confined Space must be positive isolation points ie blinds, blanks, spool removal, but NOT valves.
- All entry doors to a Confined Space must be locked in the open position when people are working inside.
- Where ventilation openings have been identified as necessary to create and maintain a safe atmosphere, these must be locked in the open position.

7.5. Pneumatic Isolations

When isolating a pneumatic system using a valve as the isolation point, both the valve and the drain used to prove (de-pressure) the isolation must be locked i.e. the valve isolating the work area from the supply header is obviously locked in the isolated (closed) position, AND the drain must be locked in the open position.

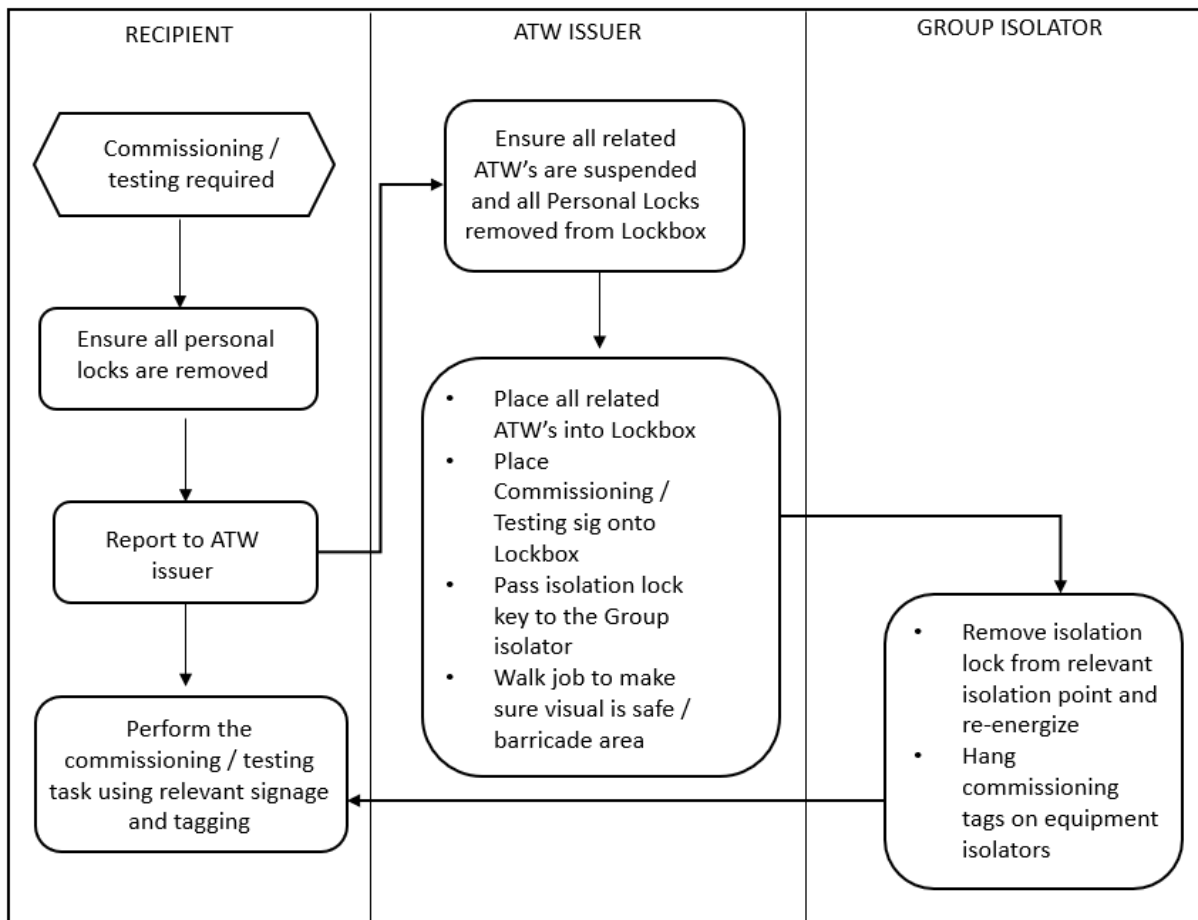
7.6. Cargo Contamination Prevention

Should there be a risk of contamination of products between conveying systems, the Berth 8 Stevedore contractor must switch off and place a cargo Contamination Prevention Lock (Purple) onto identified conveyors.

Note: This process does NOT provide a Proven Isolation. Personnel or equipment are not protected by the placement of this lock.

8. COMMISSIONING AND TESTING

Commissioning and Testing Flowchart



The purpose of the Commissioning and Testing process 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 any type of unrelated Isolation;
- Restrict access by other persons to areas where an energy source or hazard may not be controlled inside the barricaded area; and
- Provide a mechanism that allows the safe re-energization of isolation point(s) within an established Isolation.

There are two reasons why an isolation point may need to be energized and de-energised within an established Lockbox Permit / Isolation:

- a) The isolation point needs to be switched on and off relatively frequently in order to conduct the scope-of-work. Several times each shift a drive must be re-energised and used to progress the scope-of-work. It is then re-isolated.
- b) The isolation points needs re-energizing at the completion of the scope-of-work for final testing. Examples will be the direction testing of an electric motor after it has been replaced and prior to re-coupling; or the testing of a conveyor belt that has been changed out.

Both these scenarios are managed by the Commissioning and Testing process described below:

- The Recipient must ensure all Personal Locks have been removed from the Lockbox.
- The Recipient takes the ATW to the ATW Issuer.
- The ATW Issuer ensures any other ATW's associated with that Lockbox Permit cease work and all Personal Locks are removed.
- The ATW Issuer must secure that ATW, as well as any other ATW's being worked under that same Lockbox Permit, inside the Lockbox. A Tag must be placed on the outside of the Lockbox to communicate "Commissioning and Testing in progress – DO NOT lock on".
- The Group Isolator removes the Isolation Lock from the relevant isolator, hangs a commissioning tag on the isolation point and re-energises the point.
- The ATW Issuer remains present whilst the Recipient performs the Commissioning and Testing activity.

Note: Use of the Commissioning / Testing Control Sheet (Appendix 8) and any Commissioning and Testing Tags will be at the discretion of the ATW Issuer and will be dependent on the complexity of the task involved.

9. PLACING EQUIPMENT OUT-OF-SERVICE

If potential for hazardous exposure remains at the end of the work/shift, the Recipient must communicate this to the ATW Issuer (SPA-BUNBURY Supervisor).

The ATW Issuer will issue the Recipient with an Out-of-Service Tag which must be placed on the equipment and the associated isolation (Lockbox). The Out-of-Service tag must be attached to the relevant isolation point and provide sufficient information to convey the reason as to why the equipment is Out-of-Service and the hazard that is present. Examples include:

- Where hydraulic lines have been left disconnected.
- Where electric terminations have been left disconnected.

Note The only person who can remove an Out-of-Service Lock or Tag is a person who is competent in the repair of the equipment.

10. MOTHBALLING EQUIPMENT

In situations where equipment is to be placed Out-of-Service for greater than six (6) months or as deemed necessary, the Group Isolator must replace the Isolation Lock with an Out-of-Service Lock and follow the Out-of-Service process as described in Section 5 above.

11. UNLOCKING OF EQUIPMENT

The ATW Issuer must ensure all relevant ATW's against the Lockbox Permit have been closed, remove the Lockbox Permit from the Lockbox, authorise unlocking (sign Permit) and communicate with a Group Isolator to advise that the isolation may be unlocked.

The Group Isolator must:

- Confirm with the SPA-BUNBURY Supervisor that the equipment may be de-isolated;
- Remove Isolation locks from all isolation points;
- Replace the Isolation locks back into the Lockbox, along with the key (confirm that all locks are accounted for);
- Sign the Lockbox Permit indicating that all isolations have been removed, and give the completed Permit to the ATW Issuer for filing for 7 years;
- Place the Lockbox master lock on the Lockbox.

12. ISOLATION OF MOBILE EQUIPMENT AND LIGHT VEHICLES

All light vehicles (LV), and mobile equipment (ME) that is used for transport, production and maintenance in and around the site must have Proven Isolation before any maintenance work is carried out on that equipment.

12.1. Safely Parking and Immobilising Mobile Equipment and Light Vehicles

Regardless of the type of isolation to be used, prior to carrying out any inspections or fault finding, or starting work on a LV or ME, the machine must be safely parked and immobilized. This is achieved by completion of the following steps:

- The machine must be positioned such that it won't move (otherwise known as "fundamentally stable"). Methods to achieve this include (but are not limited to) - Wheels are chocked, in a trench, across a hump or turned into a bund;
- When these conditions are met the park brake is applied and all implements are lowered to the ground.
- The machine can then be turned off and any isolations applied as required.

12.2. Perform Light Vehicle Isolation

- For onsite maintenance activities the battery must be isolated with an approved isolation device that allows for the fitting of Personal Locks to complete the isolation.
- For offsite emergency repairs (eg changing a punctured tyre) and for vehicle inspections (regardless of location), the keys must be removed from the ignition and kept with the person doing the inspection/repair.
- Prestart – When conducting prestart where any part of your body is inside the engine bay the keys must be removed from the ignition and kept with the person doing the checks.

12.3. Determine Isolation Approach – Mobile Equipment

There are two (2) types of isolations that can be used for ME:

- Inspection Isolation; and
- Complete Energy Isolation.

Inspection Isolation (Starter motor only) provides limited isolation and the activities able to be performed are therefore limited to:

- Pre-Start Inspections – safety checks such as tyres, lighting, and checks for any damage.
- Electrical fault-finding, but not repair.
- Other tasks supported by an approved JHA or work instruction.

If there is any doubt regarding the applicability of an Inspection Isolation, then a Complete Energy Isolation must be implemented.

Complete Energy Isolation considers all potential energy sources and requires each isolation to be set, proven and locked. Complete Energy Isolation is required for all maintenance and repair activities including breakdowns.

Complete energy isolations are performed by the person performing the work by placing personal locks on each isolation point as determined by the scope of work. In addition to the main machine isolator, isolation points may include:

- Any raised implements that have an associated isolation point (securing pin); and
- Articulation points.

12.4. Fault-finding without isolation

In situations where fault finding is needed without isolation, but with the machine not running, the task must have a supporting, approved JHA or work instruction. Once fault finding is complete, any repairs to the machine must be performed with the isolation set, proven and locked as previously described.

12.5. Testing of Mobile Equipment or Light Vehicles

All inspections that require a machine to be running whilst people enter the footprint, must have a supporting, approved JHA or work instruction. If as a result of the testing further repairs to the machine must be performed, isolation must set, proven and locked as previously described.

13. WORKING ON LIVE EQUIPMENT

The Working on Live Equipment Permit process provides a method to gain approval to perform work on live equipment that will not be prepared for work using normal isolation processes. This process applies to all work being conducted onsite when either a decision has been made to work on live equipment, or when a Proven Isolation has not been achieved through the isolation process.

Note This process does not cover working on live electrical equipment. For information on this process, refer to the site's Live Electrical Permitting system.

A JHA must be developed and include (participants) as a minimum: the Group Isolator, Recipient; SPA-BUNBURY Supervisor; and any relevant technical specialists. The JHA will determine the hazards and controls, including those created by the activity.

Once completed, the JHA must be attached to the Working on Live Equipment Permit (Appendix 6) and presented for consideration/approval.

Prior to endorsing and approving the Permit signatories must consider:

- If the task must take place on live equipment;
- The robustness of the risk assessment; and

- Residual risks after controls are implemented.

14. REMOVAL OF ANOTHER PERSON'S PERSONAL LOCKS / TAGS

A Personal Lock and Personal Danger Tag (PDT) Removal Authorisation Form (Appendix 9) must be completed and approved before any action is taken to remove another person's 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 Personal Lock and PDT.
- Where a key cannot be used to open any lock used as part of the isolation process, (including Personal Lock, Isolation Lock or Lockbox Lock). This includes the removal of a Personal Lock by the owner (you may NOT cut your own lock off without approval from the Registered Manager or their delegate).

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

- A replacement PDT is to be completed with the replacing person's details on the tag and reattached to the isolation point or Lockbox. It must 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.

15. REGIONAL MANAGER or EQUIVALENT AUTHORITY

The Regional Manager or Equivalent has the authority to vary this procedure, provided the intent remains intact.

Appendix 7 is an example of a Procedural Variation Request form.

The person requesting the variation will complete the justification, supported by a formal risk assessment that clearly shows why the normal procedural process is not to be followed.

The request is then presented to the authorising persons for consideration.

16. TRAINING AND COMPETENCE

All personnel working within the Isolation and Tagging system must have been formally trained and deemed competent to fulfil their role within the process. Appendix 4 - Isolation and Tagging Training and Competency Matrix – lists each role and training requirements.

17. AUDITING REQUIREMENTS

The Bunbury HS&S Team must produce and maintain:

- An audit question set that will ensure the ongoing monitoring of system implementation. Refer to the Isolation and Tagging Loss Prevention form No. 20 LPI FORMS 16-30

Results of audits will be reported by the Bunbury HSS Team to the SPA-BUNBURY management team on a regular basis.

18. RELATED LEGISLATION AND DOCUMENTS

The applying legislation and documents include, but are not limited to the following:

- Bunbury Authorisation to Work Procedure
- Isolation Confirmation Permit – (Appendix 10)
- Lockbox Sign on Sign Off Form (Appendix 11)
- High Voltage Electrical Isolation and Access
- Lockbox Permit

19. DEFINITIONS

Term	Meaning
Isolation	The practical removal of energy sources by the placement of an isolating device as an energy barrier.
Scope of Work	The intended outcome of a Work Group activity.
Proven Isolation	Where it has been demonstrated that under current conditions all forms of energy have been removed within a defined boundary.

20. APPENDICES

APPENDIX 1 - ENERGIES TO BE ISOLATED

Energy Type

Gravitational	Energy related to the mass of an object and its distance from the earth (or ground). The heavier an object is, and the further it is from the ground, the greater its gravitational potential energy.
Kinetic	Energy resulting from moving objects such as released loads and uncoiling springs. When these objects are released, their potential energy is converted to kinetic energy.
Radiation	Energy from electromagnetic sources. This energy covers all radiation from visible light, lasers, microwave, infra-red, ultraviolet, and X-rays. Radiation energy can cause health effects ranging from skin and eye damage (lasers and UV light) to cancer (X-rays).
Chemical	Energy released when a substance undergoes a chemical reaction. The energy is normally released as heat, but could be released in other forms, such as pressure. A common result of a hazardous chemical reaction is fire or explosion.
Electrical	Energy generated through the conversion of other forms such as mechanical, thermal, or chemical energy. Energy stored between plates of a charged capacitor is an example of potential electrical energy. Typical electrical energy sources include open busbars, motors, and generators.
Thermal	Energy transferred from one body to another as the result of a difference in temperature. Heat flows from the hotter to the cooler body. Sources include mechanical work, radiation, chemical reactions, and electrical resistance.
Pressure	Energy from compressed liquids or gases. The higher the pressure, the greater the potential energy.

APPENDIX 2 - METHODS OF PROVING ISOLATIONS

I. PROVING PROCESS ISOLATIONS (FLUIDS, AIR, HYDRAULICS)

- Isolate the process stream to be worked on and prove the isolation by drainage.
- Ensure each isolation device is in the correct position.
- Test all valves are seated against working pressure.
- Observe all drains to ensure the expected volume has drained, the drain valve remains clear and that the flow has stopped.
- Double-block-and-bleed arrangements must have the drain (bleed) between the two valves locked open.
- Where necessary, flush or purge the system.

II. MECHANICAL ISOLATION

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

III. PROVING ELECTRICAL ISOLATIONS (FOR ELECTRICAL PURPOSES)

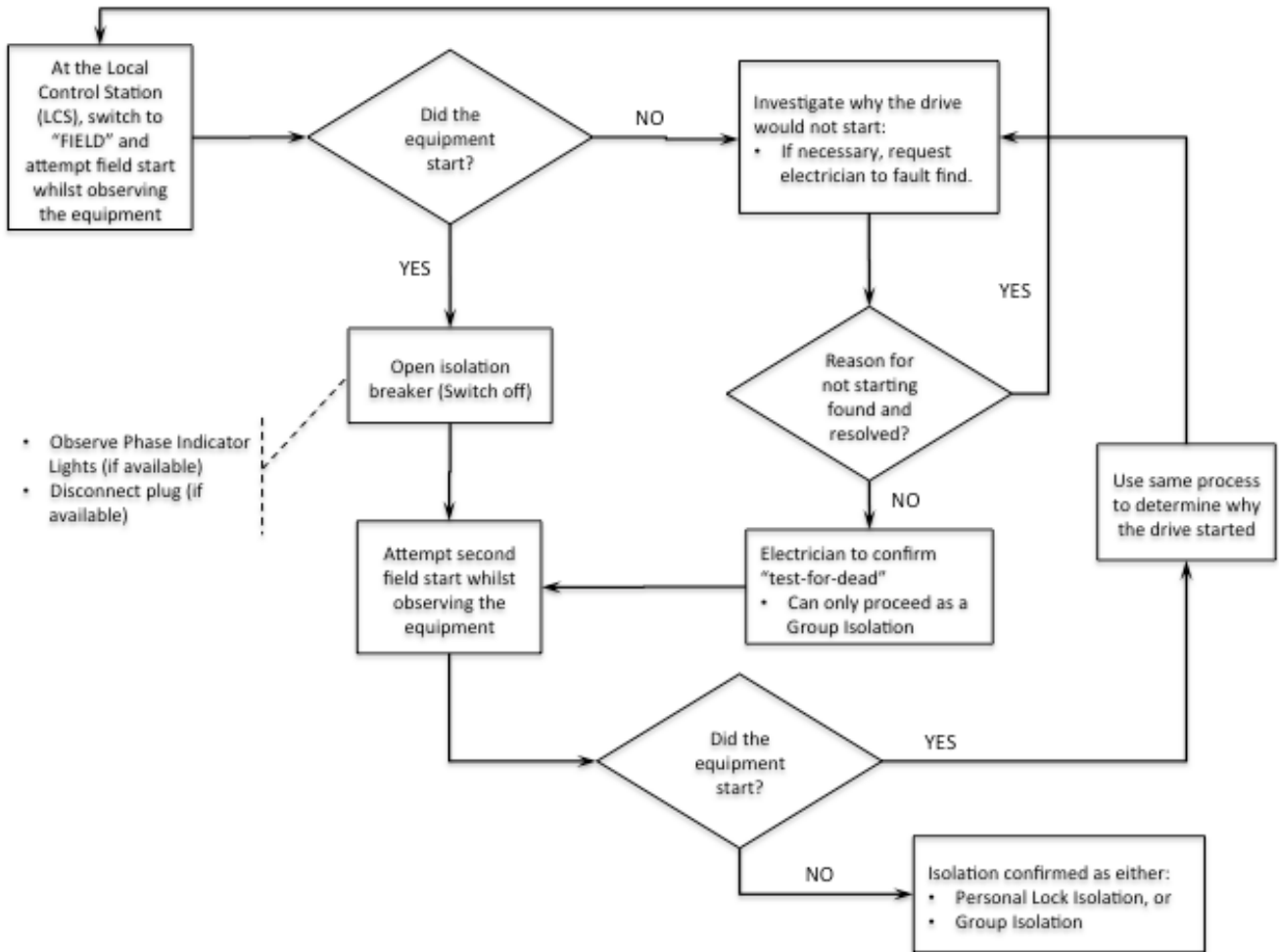
- Where electrical personnel will be conducting work on uninsulated electrical apparatus, the electrical tradesperson must isolate and test for dead prior to works commence.
- The electrician must record on the Lockbox Permit (for Group Isolations) evidence of the test for dead or earthing process.
- Refer to the Electrical Access and High Voltage Procedure for further detail when working on Electrical Distribution Systems or High Voltage Equipment.

IV. PROVING ELECTRICAL ISOLATIONS (FOR MECHANICAL OR OPERATIONS PURPOSES ONLY)

- All electrical breakers must be open and isolation points locked, then tested by trying to start the equipment from the field and, where necessary, from the control system.
- Check the three (3) phase lights (where fitted). 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.
- The method for proving electrical isolation and confirming the correct equipment has been isolated is described in the following flowchart.
- Where equipment has been damaged and either a field or control system test cannot be done, the person isolating must request an electrician to test for dead before locking the drive.

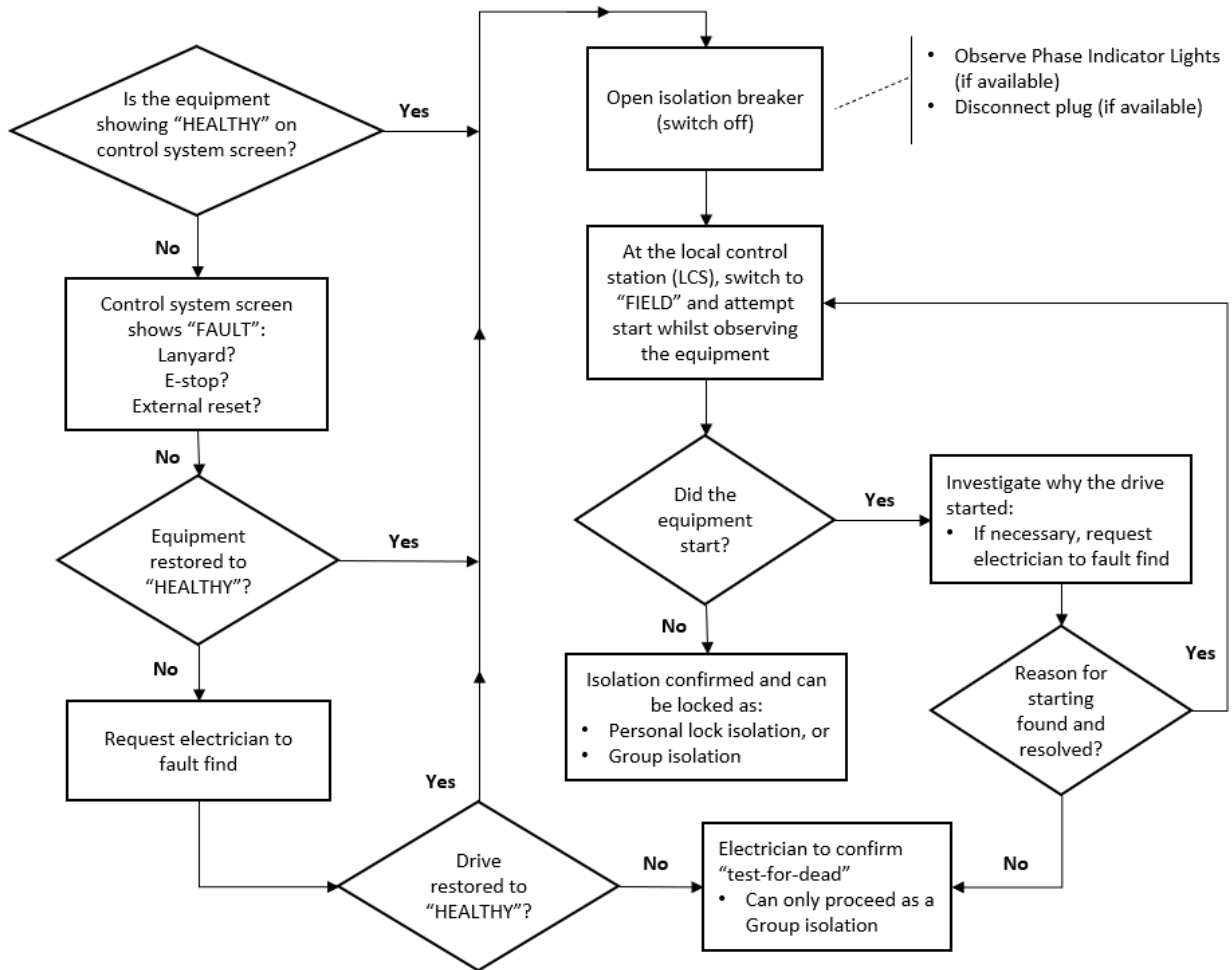
Isolation and Tagging Procedure – Port of Bunbury

Electrical Proving Method for equipment NOT visible from the Control System



Electrical Proving Method for equipment visible from the Control System



Isolation and Tagging Procedure – Port of Bunbury






APPENDIX 3 - ISOLATION AND TAGGING HARDWARE

Tags



- Information written on tags must be readable by others and written using a permanent marker pen only.
- All tags must be destroyed after use and disposed of responsibly.

Tag / Hardware	Use
<p>Information Tag</p> 	<p>Purpose: To convey information</p> <ul style="list-style-type: none"> This tag may be used to identify and label components such as, hydraulic lines, electrical wiring, air and water lines during maintenance or installation. Placed on to barricading to explain the reason for the barricade or tape and the name of the contact person. <p>Placed and removed by:</p> <ul style="list-style-type: none"> Any person without the requirement for Isolation and Tagging or ATW training.
<p>Out of Service Tag (OOS)</p> 	<p>Purpose: Identifies plant and equipment that is unfit or hazardous for operation and communicates the repair status of that equipment. This tag is intended to prevent equipment from being accidentally used until repairs are complete.</p> <ul style="list-style-type: none"> Where there is no Lockbox involved, the Out of Service Tag is placed on the defective equipment itself. Where there is a Lockbox and ATW involved, and repairs are incomplete (regardless of whether or not the ATW has been signed off), an Out of Service Tag must be placed on the Lockbox by the Recipient giving an updated status of the equipment repair. Can be used by itself ie Tag only, or in conjunction with an Out-of-Service Lock – refer Section 5 above. <p>Placed by - Any person without the requirement for Isolation and Tagging or ATW training.</p> <p>Removed by – Only by a person who is competent in the repair of the identified equipment.</p> <p>The Out of Service Tag must only be removed when work has been completed or there is no longer a risk of exposure to any uncontrolled hazard relating to the repair work undertaken.</p>




Isolation and Tagging Procedure – Port of Bunbury

<p>Orange Isolation Tag & Orange Isolation Lock</p> 	<p>Purpose: Provides in-field information specific to Group Isolations.</p> <ul style="list-style-type: none"> The Tag is placed onto an Orange Isolation Lock at all point(s) of isolation. <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 verified.</p> <p>Placed and removed by:</p> <ul style="list-style-type: none"> Group Isolators.
<p>Personal Danger Tag (PDT)</p> 	<p>Purpose: To inform others that the person named on the tag is working on a task that requires the Isolation Point or Lock box (to which the Tag is attached) to remain isolated/intact.</p> <ul style="list-style-type: none"> PDT's are also used by non-SPA-BUNBURY personnel. Individuals must attach their own Personal Lock and PDT. Individuals must remove their own 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>Placed and removed by:</p> <ul style="list-style-type: none"> Can only be placed and removed by the owing individual (whose name appears on the PDT). <p>Refer Section 9 above regarding accidental or emergency removal of PDT's.</p>
<p>Blue Commissioning & Test Tag</p> 	<p>Purpose: To provide in-field communication regarding equipment / plant that is being tested or undergoing a commissioning phase.</p> <p>The Blue Commissioning & Test Tag can be attached to equipment and/or barricading to communicate and control access.</p> <p>Placed and removed by:</p> <ul style="list-style-type: none"> The Recipient conducting the Commissioning/Testing activity. <p>Refer Section 4 above for detail on the Testing/Commissioning process.</p>



Lockbox and Locks

<p>Lockbox</p> 	<p>Purpose: To provide a lockable container for ensuring:</p> <ul style="list-style-type: none"> • The Lockbox Permit that has been approved is protected against unauthorised adjustment or removal. • The Isolation Lock (Orange) Key remains secure whilst the Isolation is available to revive ATW's. • To provide a central point for Work Group members to lock onto when working under an ATW. <p>Refer Section 2.4 above for detail on use of Lockboxes. <u>Lockbox Signage</u></p> <ul style="list-style-type: none"> • “Linked to Lockbox # _____” • “Commissioning/Testing in progress – Do not Lock on”. <p>Management of Lockboxes:</p> <ul style="list-style-type: none"> • ATW Issuer only.
<p>Personal Lock (Red) & Visitor Lock (Red)</p> 	<p>Purpose: To provide a mechanism that ensures an isolation cannot be tampered with whilst an individual is working within the isolation.</p> <ul style="list-style-type: none"> • A Personal/Visitor Lock is placed on either: <ol style="list-style-type: none"> a) Isolation points (Personal/Visitor Lock Isolations) after the energy barrier has been proven effective. b) A Lockbox as part of the Group Isolation process. • A person's Red Personal/Visitor Lock 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>Placed and removed by:</p> <ul style="list-style-type: none"> • Can only be placed and removed by the owing individual. • Placed under supervision of Recipient for Personal Lock Holder qualification. • Placed independently for Personal Lock Isolator qualification. <p>Issuing Visitor locks</p> <ul style="list-style-type: none"> • A Visitor Lock Register must be kept of all Visitors Locks issued and signed for by the recipient of the lock.

Isolation and Tagging Procedure – Port of Bunbury

<p>Isolation Device (example)</p> 	<p>Purpose: Attached to an isolation point for Personal Lock Isolations, allowing for two (6) Personal Locks to be placed on the isolation.</p> <p>Placed and removed by:</p> <ul style="list-style-type: none"> • Personal Lock Isolator. • GLB Isolator
<p>Isolation Lock (Orange)</p> 	<p>Purpose: To provide a mechanism for securing proven isolation points relevant to a specific Group Lock Box Isolation and Lockbox Permit and protect those isolation points against accidental activation.</p> <p>Isolation Locks specification:</p> <ul style="list-style-type: none"> • Kept as a set, specific to one Lockbox, and with one key to fit the whole set. • Each lock must be labelled to make it unique in the system ie Lockbox 1, Lock 1; Lockbox 1, Lock 2 and so on. (It is this unique number that must be recorded on the Lockbox Permit). <p>Refer Section 2.5 above for detail on use of Isolation Locks.</p> <p>Placed and removed by: Group Isolator.</p>
<p>Out-of-Service Lock (Yellow)</p> 	<p>Purpose: To provide a mechanism for securing plant and equipment that is unfit or hazardous for operation. This Lock prevents equipment from being used until repairs are complete. This lock is also used to identify Mothballed equipment.</p> <p>Refer Section 5 above for detail on how these Locks are applied.</p> <ul style="list-style-type: none"> • Placed by: The Recipient conducting the ATW / scope-of-work. • Removed by: A person who is competent in the repair of the equipment.

Isolation and Tagging Procedure – Port of Bunbury















<p>Lockbox Locks (Blue)</p> 	<p>Purpose: To provide a mechanism for protecting against the unauthorised unlocking of a Lockbox.</p>
	<p>Refer Section 2.5 above for detail on use of Isolation Locks.</p>
	<p>Placed and Removed by: Group Isolator only.</p>
<p>Cargo Contamination Lock</p> 	<p>Purpose: To avoid contamination of material on joining (intersecting) conveyors.</p>
	<p>Refer Section 3.1.8 above for detail on use of the Cargo Contamination Lock.</p> <p>Note: This is NOT an isolation Lock, and provides no protection for personnel or equipment.</p>
	<p>Placed and Removed by:</p> <ul style="list-style-type: none"> Berth 8 Licensed Stevedore.

APPENDIX 4 - ISOLATION AND TAGGING TRAINING AND COMPETENCY MATRIX

Role	Pre-requisites	Training and assessment progression	Duties
Personal & Visitor Lock Holder	Nil	<ul style="list-style-type: none"> Covered as a module attached to Induction. 	Place Personal Locks onto Lockbox under supervision of Recipient.
Personal Lock Isolator	<ul style="list-style-type: none"> Personal Lock Holder Sub-Station Induction (as nominated) 	<ul style="list-style-type: none"> Theory assessment done as part of course. Practical Assessment. 	Independently place Personal Locks onto either a Personal Lock Isolation or a Lockbox.
Group Isolator (non electrical)	<ul style="list-style-type: none"> Personal Lock Isolator Sub-Station Induction 	<ul style="list-style-type: none"> Theory training. Countersigned Isolation Permits. Practical Assessment. Letter of Appointment 	Issue Lockbox Permits relating to: <ul style="list-style-type: none"> Non-electrical scopes-of-work only. Electrical isolation limited to 415 volts.
Group Isolator (Electrical)	<ul style="list-style-type: none"> Personal Lock Isolator Sub-Station Induction Statute Electrical appointee 	<ul style="list-style-type: none"> Theory training. Countersigned Isolation Permits. Practical Assessment. Letter of Appointment HV Switching Qualification 	Issue Lockbox Permits relating to any scope-of-work and high/low voltage isolations.

Isolation and Tagging Procedure – Port of Bunbury

APPENDIX 5 - COMPETENCY / ROLE MATRIX

		Type of Competency					
		Group Isolator ↓		Personal Lock Isolator ↓		Personal and Visitor Lock Holder	
		Isolates for Others		Isolates for Self		Can Not Isolate	
Type of Isolation	Personal Lock Isolator →						
	Each Isolated Point						
	Group Isolator →						
		Each Isolated Point		Each Isolated Point		Each Isolated Point	
Lock Box →							
		Each Isolated Point		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

Personal Lock Isolator: (Red Lock & PDT) – Up to two (2) people can only isolate for themselves, up to 6 isolation points.

Group Isolator: (Orange Lock & tags) establishes Lock Box isolations, for Lock Holders and Personal Lock Isolators to lock onto the Lock box (Red Personal Lock & PDT).

Isolation and Tagging Procedure – Port of Bunbury

APPENDIX 6 - WORKING ON LIVE EQUIPMENT PERMIT

Equipment Description or N°:	WO No.
Reason for Working on Live Equipment:	
Reason for inability to isolate:	

Approved JHA must be attached to this Permit

Endorsements	
Group Isolator	Name Signature Date.....
Maintenance Supervisor	Name Signature Date.....
Safety Advisor	Name Signature Date.....

Approval	
Registered Mine Manager (or delegate)	Name Signature Date.....

APPENDIX 7 - CHANGE REQUEST FORM

TO	Registered Mine Manager (RMM)	From	
Original To	RMM File (ATW)	Date	

Relevant Procedural clause and requirement
Description of Variation
Justification for Variation

Requesting Person

Approvals:

HSS Team

Regional Manager or Equivalent

SECTION 5: Additional Information

Empty space for additional information.

SECTION 6: Authorisation

Comments:

Empty space for comments.

Responsible Person	Name:	Signature:	Date:
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APPENDIX 9 - PERSONAL DANGER TAG & LOCK REMOVAL AUTHORISATION

This authorisation is to be used in cases where a Red Personal Danger Tag & Lock has been left on an item of equipment and the originator cannot be contacted.

Section 1: Details of Red Personal Danger Tag / Lock

Description of Equipment:			
Tag Information:	Name of Originator:		
	Date:	Time:	
	Place:		
	Employer:		
Reason for Original Replacement:			
Consequences for Non-Removal:			

Section 2: Procedure for Location of Originator and Removal of Tag & Lock

Procedure:			YES	NO
	1.	Tagged/Locked area searched to ensure originator not present		
	2.	Contact attempted by phone		
	3.	Contact attempted in person		
	4.	Safe to remove the Red Personal Danger Tag & Lock		
	5.	Approval to remove Red Personal Danger Tag & Lock received		
Removal Details:	Responsible Person (print):			
	Red Personal Danger Tag & Lock removed: YES / NO (circle)			
	Date:	Time:		
If Yes:				

Section 3: Authorisation

I authorise the Responsible Person whose name appears in Section 2 to remove the Red Personal Danger Tag & Lock identified in Section 1.	
Manager:	Signature:
Delegated Authoriser:	Signature
Date:	Time:

Section 4: Incident Report Action

Report must be raised and entered into INX	
Date Reported:	INX Number:

APPENDIX 10 – ISOLATION CONFIRMATION PERMIT

This permit is to be used for any works at Southern Ports Bunbury on plant / equipment requiring a Group Isolation as per Bunbury Isolation and Tagging Procedure						
SECTION 1: Applicant Details and Authorisation					WO No.	
Lock Box No:			Lock Number:			
Name:			Location:			
Title:			Equipment:			
Start Date:		Time:	Completion Date:		Time:	
Appointed Group Isolator 1:			Appointed Group Isolator 2:			
Signature:			Signature:			
Contact:			Contact:			
SECTION 2: Equipment to be worked on / work description						
SECTION 3: Effect on Plant and System						
SECTION 4: Switching Procedure						
<p>Check with Operations! Advise Relevant Personnel! Check Other Safety Precautions!</p> <p>Before Commencing Are You Competent? (Do You Understand?)</p> <p>Are you an appointed Group Isolator and trained to Isolate the Correct Systems Required?</p>						
			Isolation Type*		Appointed Group Isolator 1	Appointed Group Isolator 2
Step	Location	Equipment	M / E	Time	Sign	Verified
1						
2						
3						
4						
5						
6						
7						
*Isolation Type (M) Mechanical or (E) Electrical						

Isolation and Tagging Procedure – Port of Bunbury

SECTION 5: Restoration						
			Isolation Type*		Appointed Group Isolator 1	Appointed Group Isolator 2
Step	Location	Equipment	M / E	Time	Sign	Verified
1						
2						
3						
4						
5						
6						
7						
*Isolation Type (M) Mechanical or (E) Electrical						
SECTION 6: Additional Information						
SECTION 7: Cancellation of Permit						
Appointed Group Isolator 1:			Appointed Group Isolator 2:			
Name:			Name:			
Signature:			Signature:			
Date:		Time:	Date:		Time:	
<p>Note: On cancellation of the permit, "Lock Box Sign On, Sign Off" shall be attached to this permit and submitted to administration for filing.</p>						

