

# BHP Billiton



## TEMCO Site Isolation Training

Isolation Lockout / Tagging

&

Barricading Procedures



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## Introduction

There are three modules in the BHP Billiton TEMCO Isolations Training. These are:

**Module 1 (Induction)** which allows a person to work under various isolation systems, such as placing Personal Danger Locks & Tags on isolation points when under the supervision of a Module 2 or 3 trained person.

**Module 2 plus Site Specific Training** involves identification of isolation points from pre-existing specific isolation lists; check sheets; standard operating procedures; and performing Confirmation of Isolations prior to placing a Hasp Confirmation Lock & Tag.

**Module 3** involves performing Lock Box & Group Isolations, developing isolation checklists, as well as high voltage and switching duties as authorised.

***Additional training will be provided for specific areas at a higher level including Authority to Work (ATW), Exclusive Control and Lockbox.***

## Isolation Lockout & Tagging

Isolation, Lockout and Tagging is a means of switching off or controlling the energy source – to prevent injury to people or damage to equipment.

An **ISOLATION POINT** is a device (or devices) used to remove or control energy (or the source of energy) in order to render plant and equipment safe to work on.

### **Typical Sources of Stored Energy**

Sources of Stored Energy to consider include: Electricity; Fuels; Heat; Steam; Fluids under pressure (water, air or hydraulic); Energy storage devices (batteries, springs, flywheels, capacitors or accumulators); Gravity; Radiation; and Furnace Cooling Water in the Switch Yard.



## Isolation Integrity Procedure

The following steps define the approach to Isolation:

1. Identifying isolation points via:
  - Isolation Lists and Procedures
  - Authority to Work (ATW)
  - A JSA or Take 2

2. Confirming the zero energy state by:  
Placing a green Isolation Confirmation Tag and Lock on the isolation point, indicating the isolation has been performed AND confirmed.

1. Applying a Personal Danger Lock & Tag.
2. Verifying the Isolation via Field Checks.

**It is very important, that as a Module 1 trained person you MUST have a Module 2 or 3 trained person with you before you can Lock & Tag an isolation point. Isolation Confirmation will be completed for you.**

## **Personal Danger Locks & Tags**

Personal Danger Locks & Personal Danger Tags provide **YOU** with personal protection where there is a risk of injury from the operation of plant or equipment.

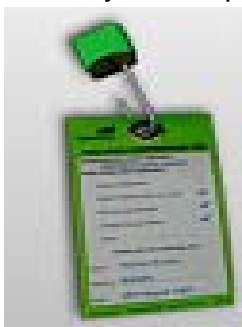


These tags can be either disposable or plastic (reusable).



## **Placing Danger Locks and Tags**

A **GREEN** Isolation Confirmation Lock & Tag shall be on an isolation point or lockbox before you can place your Hasp/Scissor Plate, Danger Lock & Tag.



Ensure that all details on the tag are legible.

Use your OWN Personal Danger Lock & Tag.

You are the **ONLY** person allowed to remove your Personal Danger Lock & Tag.

**REMEMBER:** as a **MODULE 1** you will need a **MODULE 2** or **3** trained person to perform Confirmation for you.

The Personal Danger Tag must be destroyed after removal (if disposable).

**NOTE:** You are permitted to have the confirmation of isolation proved – in other words it allows you to **Check the Checker**. If you are unsure about anything **STOP** and ask a competent and authorised person.

## Isolation Confirmation Tag

A **green** Isolation Confirmation Tag confirms isolation has been completed by a competent and authorised person. The tag indicates:

1. What equipment was isolated;
2. What checks were performed to ensure sources of energy were controlled; and
3. Who performed the isolation.



**A green Isolation Confirmation Tag SHALL be fitted to an isolation point before applying your own Personal Danger Lock & Tag.**

REMEMBER: as a MODULE 1 you will need a MODULE 2 or 3 trained person to perform Confirmation for you.



## Performing Field Checks

Prior to commencing work, the individual doing the work shall ensure that work commences on the same piece of equipment that has been isolated, and Personal Danger Locks & Tags are attached.



*An example of a Field Check would be checking that the labelling in the Load Centre (MCC) or on the Checklist or Procedure matches the labelling in the field.*

**Note:** If the labelling in the field does not match the isolation you have performed, **STOP WORK** and immediately consult the Job Owner or Area Supervisor.

## Removal of Personal Danger Lock & Tags

Once you have completed the job, are at the end of shift or moving to another job you shall remove all your Personal Danger Locks & Tags and destroy or wipe clean your reusable Personal Danger Tags.

If you leave the site without removing your Personal Danger Locks & Tags you **WILL** be contacted to remove them.

## Accidental Removal of Personal Danger Tag

If there has been an accidental removal of a personal danger tag, then attach your own Personal Danger Lock & Tag to the hasp, filling in your name and details of why the tag has been placed, i.e. *Joe Blog's tag replaced*.

- Contact the person and report to Supervision.
- Remove your tag once the new tag is attached.

A 'no blame' approach is taken if this procedure is followed and reported.

## Out of Service Tags



Out of Service Tags put faulty or unsafe plant out of service to prevent injury to people or damage to plant.

They do not provide YOU with personal protection. They must be filled out legibly and clearly displayed.



## Information Tags

Information Tags are used to pass on general information that **does not** require an Out of Service Tag. They do not provide you with personal protection.

They must be filled out legibly and placed in an easily seen position.

*For example: Used to provide details of why Danger Tape has been put in place.*

## Lockbox and Group Isolation



Lock Boxes hold the lock keys used to perform multiple, group or complex isolations when a lockbox is used. Always ensure the correct Lock Box number is on the Permit. Check that your job is listed on the Lock Box Permit and the Job Owner has signed off.

As a Module 1 person you shall be instructed in the use of Lock Boxes.

## Exclusive Control

Exclusive Control allows control of access to plant equipment or an area **ONLY** to those associated with a task.

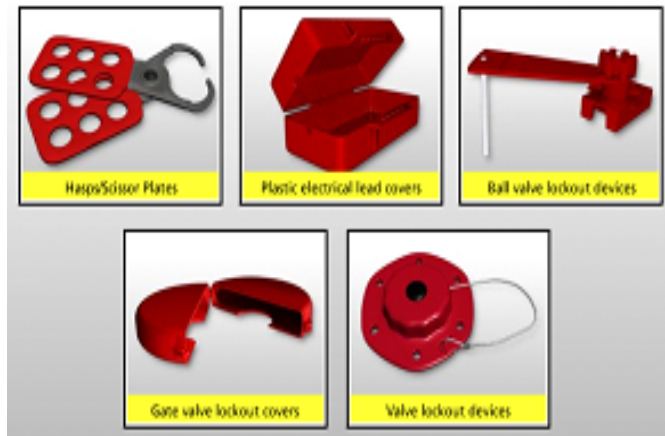
An Exclusive Control Overseer (ECO) is trained and authorised to manage the Exclusive Control Device.



As a Module 1 person you shall only work as directed with Exclusive Control situations, which include Blue Tags; Blue Permit Boards; Tape and Exclusive Control Bags.

## Isolation Hardware

Various pieces of equipment enable you to isolate such as Hasps/Scissor plates; plastic lockable electrical lead covers; Ball valve lockout devices; Gate valve lockout covers; and Multi-purpose valve lockout devices.



## Summary Overview

In this module we have reviewed the following important information:

The **Information Tag** – is used to pass on general information.

The Isolation **Confirmation Lock & Tag** – is attached to ensure isolation has been done correctly by an authorised isolator.

The **Personal Danger Lock & Tag** – can only be attached when a Module 1 is witnessed by a Module 2 or 3 trained person and an Isolation Confirmation Lock & Tag is present on the isolation device.

The **Out of Service Tag** – is used to indicate that plant and equipment is unserviceable or unsafe.

The **Red Hexagonal Lockbox Tag** – indicates the isolation device is under Lock Box conditions.



The **Exclusive Control Device** – is used to control access to plant, equipment or an area to only those associated with the task.



## **Barriers & Barricading**

This standard outlines safety requirements for the temporary erection of barriers and barricades to ensure all personnel and visitors are prevented or restricted from accessing areas where unfamiliar hazards may cause injury or harm.



Risk assessment or JSA should be used when selecting the types of barricade.



## **Roles & Responsibilities**

There are 3 levels of Barricading plus different roles of responsibility within the barricading site requirements.

### **Authorised Personnel:**

- A Supervisor, TEMCO Responsible Person or ATW Recipient who is directly responsible for the coordination or supervision of the works being carried out within the restricted area.
- An employee or work crew member who is presently performing work in a restricted area as part of their normal duties.
- A person with the appropriate authority and PPE to proceed past or through an erected barricade.
- Responsible Person/Contact Person – information tags provide contact details of the person responsible, or the person to be contacted for permission to enter the restricted area.
- Where the barricade includes the use of exclusive control, the Exclusive Control Overseer listed on the Exclusive Control Tag shall be contacted and the relevant procedure followed.



- *For the purpose of barricading a Responsible Person is the one whose name is on the information tag.*

- *Any person at TEMCO can set up a barricade, however they must notify the Area Responsible Person to explain the reason.*

**In the case of Danger barricades (where there is a Fatality potential) no authority to enter shall be given.**

Danger Tape / Barricading Shall be removed and replaced with Exclusive Control Tape Prior to any work crew or team member accessing the Hazardous area.

## **Additional Requirements**

An Area Responsible Person should always be informed when erecting barricading, eg. Supervisor, Unit Coordinator or Control Room Operator.

To ensure that access to process or emergency equipment is not restricted, do not over barricade an area.

Hang tape tightly approximately 1m from the ground.



When there is a need to barricade large areas or roads and pathways, notification/communication should be sent to other users – site-wide email is typically used for this process.

## **Information Tags**

A blue Information Tag must be attached to all barricades. The information tag must contain the contact name of the person responsible for the barrier, the date of erection, the reason for its erection and details of the hazard, such as why barrier was erected and the intended duration.

**Note:** When using Exclusive Control Barricades an Exclusive Control Tag shall also be used.

Only 1 Exclusive Control Tag needs to be completed and placed on the Barricading. Information tags can be attached to the Exclusive Control tape at required intervals.



## **Solid Barricading**

Solid barricading should be used when high risk work is in progress, or over the longer term as an alternative to tape.

It must also be used to provide a physical barrier and must be used with taping to indicate whether it is a Danger, Exclusive Control or Caution barricade.



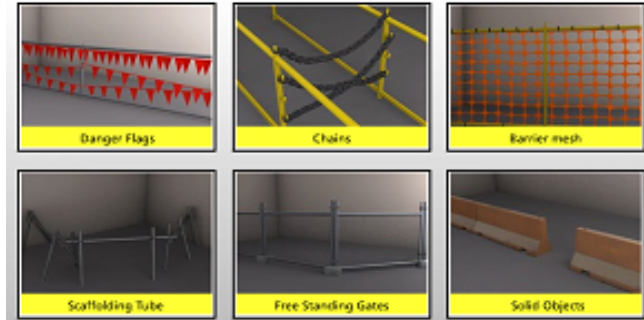
Solid barricades should be used where an increased level of protection is required –preventing entry to an area where a fall may occur due to removal of floor mesh or handrails, pits/excavations or edge protection.

A barricade can be constructed from any of the following materials or a combination of: – chains, barrier mesh, scaffolding tube or similar, free standing gates, or solid objects. Supplementary materials include flagging rope and plastic tape in an emergency.

### Safety Barricades

A safety barricade shall be any temporary or semi-permanent structure erected across an access way to protect, or to expressly deny access to, any unauthorized person who may be endangered by the presence of a hazard which has the potential to affect the health or to cause injury to personnel or inflict damage to property.

The construction material used for a safety barrier shall be dependent on the intended purpose of the barrier.



Supplementary materials include Flagging Rope and Plastic Tape in an emergency.

### Barricade Removal

When the barricade is no longer required, it is to be totally removed immediately by the barricade owner (or designated person) – barricades shall not be left in place when they are no longer required.

### Caution Tape



Caution Tape should be used where a lower risk hazard exists, eg. potential slip or trip.

Personnel may only enter if their presence poses no increase in risk to people working in the barricaded area; or if it is safe to enter the area and the person is aware and protected against the hazards.

### Exclusive Control Tape



Exclusive Control is used to control all access to potentially hazards areas and ensure that:

Only persons who have been authorised by the ECO and who have read, understood, and signed onto the JSA and Exclusive control tag for that activity, and have been informed of all the relevant hazards, and are equipped with the appropriate PPE to counter the specific hazard (s) identified, shall enter the restricted area.

The Exclusive Control Tag shall be attached to the Exclusive Control Tape with all relevant information completed including Sign in or out of work crew.

## Danger Tape



Danger Tape shall be used when a high risk hazard exists and there is a definite risk of harm to personnel; such as risk from an open shaft or trench, or where there is a risk of falling on or through something.

“No person shall enter or work within an area that has been demarcated with Danger Tape”

*Any Breach of this Danger Tape requirement will be considered as a serious breach of Isolation procedures.*

Completed Information Tag/s shall be attached to the tape as required.

This tape should only be used as a temporary barricade for high risk hazards until solid barricading has been erected or a permanent solution can be implemented.



## Summary of Procedures

All barriers shall have Information Tag/s attached at all designated access points where applicable. Where there are no designated access points, Information Tags shall be completed and tied to the barrier at regular intervals.

Barriers shall be erected in all cases where a hazard has been identified that has the potential to affect the health of personnel or cause them injury, or inflict damage to property.



**No person shall enter or work within a Danger barricade.**

For Exclusive Control situations an Exclusive Control Tag shall be completed and attached to a designated access point.

All details on the tag shall be completed by the person responsible for erecting and maintaining the barrier.

Barrier tags are to be supplemented by use of warning/advisory signs where applicable.

Only 1 Exclusive Control Tag is required to have the Crew Details, only Exclusive Control Overseer details are required on other tags.

