Hydro Tasmania

Permit To Work
PIC, AIO & Asset Owner training

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Assets - 170609
1. Hydro Tasmania Permit to Work for PIC, AIO & Asset Owner
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   - PTW Authorisation Register
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2. Isolations & Lock Out Tag Out (LOTO)

3. Assessment & authorisation
Hydro Tasmania Safe Work Practices - Definitions

- **Permit to Work (PTW)** – a job approval and risk control system applicable to all work being carried out on Hydro Tasmania owned and/or operated plant and assets. It follows fundamental hazard identification, communication and risk management processes with some check/hold points.

- **Asset Owner** – A person delegated by the Responsible Officer (RO), who is in charge of a facility or worksite (for Tech & Ops this is the Production Manager, for Land & Facilities this could be Phil Heard); and is in control of the approval of all work (requiring a permit or otherwise) to be conducted at the facility or work site.

- **Job/Project Manager** – A person accountable for the safe delivery of a scope of work.

- **Authorised Issuing Officer (AIO)** – An employee authorised by Hydro Tasmania, who acts on behalf of the Asset Owner to issue permits for approved work and who is qualified and authorised to give permission to commence work and accept the hand back of the work site.
Hydro Tasmania Safe Work Practices - Definitions

• **Operator** - An employee who is qualified, and authorised by Hydro Tasmania to operate specific stations and/or specific equipment or a person operating a piece of apparatus being described.

• **Person in Charge (PIC)** – A person trained as a PIC and is authorised to issue special permits for confined space, concealed services and hot work; and who will take charge of the conduct of work and the work site defined in a permit and is accountable for the safety of all people (IPs, visitors or members of the public) and equipment within the scope of the work. An individual **shall** only assume the role of PIC where they have both the competence and confidence to fulfill the role, and if unsure the individual has an obligation to raise their concerns.

• **Instructed Person (IP)** - A person who is trained and competent in the application of the Hydro Tasmania PTW and isolation procedure. All personnel (HT staff, contractors or others) working on HT hazardous and restricted sites, shall (as a minimum) have completed IP training and been assessed as a competent IP.
• **Safety Observer** – A competent person specifically instructed and dedicated as an observer on each situation requiring an Observer. Any safety observer appointed *shall* be appropriately skilled in all respects of safety observation and be fully aware of the potential risks associated with the work. Examples of where to use: confined space, hot work, work in vicinity of HV, excavation/concealed services.

• **Work Site** – Refers to any work site where Hydro Tasmania employees or contractors are engaged in work and where Hydro Tasmania has an influence over health and safety of those employees or contractors.
Objectives

- The objectives of the PTW system are to:
  - Ensure safety of people
  - Prevent harm to the environment, equipment or other property
  - Preserve our capability to deliver to our customers

Scope

- The PTW procedure is applicable to all work being carried out on Hydro Tasmania owned and/or operated plant and assets whether an actual PTW is required or not.
- An actual PTW may not be required for routine operational and maintenance activities where the identified risk is low, and the risk management process has been achieved in routine work management systems. All work is subject to JHA or Take 5 steps as a minimum.
PTW under emergency conditions

- Under emergency situations where life or serious asset damage is at risk:
  - An authorised and competent person may safely do what is necessary to address the immediate issue without the need for a permit to work. **Life must never be put at risk!**
  - Any such emergency situation shall be reported immediately after the situation is made safe to the Responsible Officer.
  - Shall be reported as an incident into the Hydro Tasmania incident management database as soon as practicable.
• The issue and receipt of a Master PTW may occur in a location at the discretion of the asset owner and is issued directly from the asset owner to the job/project manager who is thereby authorised as the Asset Owners delegate for the scope of work covered by the master PTW.

• The issue and receipt of a PTW and the transfer of person in charge shall only occur at the location/work site unless covered by the unplanned PIC transfer process, or a suspension or cancellation of the PTW takes place.
A PTW can only be issued by an authorised issuing officer to a person in charge. The person in charge shall independently determine that safe conditions exist at the worksite noting all hazards/danger points, control measures and/or conditions for testing, prior to accepting the PTW.

A PTW that is issued for work on or near equipment can run in conjunction with other permits’ to work, providing that any delineated work site pertaining to permits’ to work on any equipment shall not be entered without approval of the person in charge.
The PTW (original) shall be readily available for inspection at the location/work site at all times that the work party is on site, unless the PTW is suspended in which case it will be kept in a secure place by the Asset Owner or delegate. The original of any PTW which has group isolation points shall be kept in the PTW sleeve, locked to the group isolation board;

Where Isolation is provided that allows access to multiple items of equipment, multiple permits’ to work may be used and shall be coordinated/recorded on a central Log;
• A copy of all schedule of planned operations (SOPO) used to provide safe access shall be kept with the PTW;

• A copy of all agreed active risk controls, checklists and guidelines shall be kept with the PTW, except where special permits are required to be posted at the work site for the duration of the permit. Any risk controls, checklists and guidelines that are no longer required for the current and unfinished work shall be kept in an organised folder identified and available to the PIC, work party, Asset owner or delegate and AIO.
Hydro Tasmania
– Permit to Work Requirement

PTW Requirement Flowchart

1. Permit to work requirement
   - Completed JHA / SWI for work?
     - No
       - Controlled risk score
         - Moderate/High/Extreme risk
       - Low risk
         - More than one special permit required?
           - Yes
             - Can work affect energy production?
               - Yes
               - No
             - No
           - No
     - Yes
PTW Requirement Flowchart – cont’d

From previous slide

- Is a group isolation required?
  - Yes
  - No
- Work being done by contractor?
  - No
  - Yes
- Contractor approved to carry out work under contract?
  - No
  - Yes
- Contract conditions and safe work methods meet intent of PTW?
  - No
  - Yes

No permit to work required
Permit to work required
Permit to work Process

The fundamental risk management process is followed and achieved by:

- Defining, requesting and approving the scope of works
- Using risk assessment and management tools to identify hazards & risks and control measures using the “As Low As Reasonably Practical” principle (ALARP) e.g. Confined space permit, Diving permit, Group isolation, concealed services survey, etc.
- Approval of agreed control measures – RO, Asset Owner or delegate (permission to proceed “hold point”)
- Hand over to Person in Charge (PIC) “hold point”, check currency of PIC authorisation and confirm that the PIC is competent and confident to lead the work covered by the PTW.
- Instructed Person(s) sign on to PTW (and lock on if group isolation required).
- Safety Observer signs on – if required
- The work is done in accordance with the scope and agreed control measures with the understanding that should any of the conditions change or any unexpected hazards or risks be identified, that work will be stopped and where required the work team move to a safe location for the new risks to be assessed and any new control measures be put in place before commencing work again, if safe to do so.
- Sign off by Instructed person(s) and Safety Observer (and remove locks)
- Hand back of PTW by PIC to AIO
PTW Process & Documentation Overview

• Included in SWP handbook

• Available to be put up on Safety Boards

• Included as part of PTW Procedure
PTW Suspension & Reactivation

( where PIC role temporarily transferred back to AO or delegate )

• A PTW may need to be suspended ( and later reactivated ) for a number of safety or operational reasons determined by the Asset Owner or delegate ( this is covered in some detail later with PIC transfers).

PTW Cancellation ( or Surrender )

• The Asset Owner ( or delegate at the asset owners specific direction on each occasion) may direct the PIC to Hand Back the PTW at any time – in other words the PTW being Cancelled or Surrendered.
1. Request, Scope definition and Approval

2. Hazard ID, Risk Assessment & Control Measures

3. Control Measures Approval

4. Hand over to PIC

5. Instructed Person(s) & Safety Observer sign on/off

5. PIC Hand back of PTW
Roles & Responsibilities - Summary

The job/project manager is accountable for identifying:

- The location of the equipment and extents of the work site.
- The scope and methodology of work to be undertaken, including the expected time frame and any testing to be undertaken.
- Appropriate risk management controls required for the safe conduct of the work, including but not limited to:
  - special permits
  - work site delineation
  - isolation, lock out and tag out
- Where the scope of work is extensive, the job/project manager will consider the need for the use of master and subsidiary permits to work, where it is unreasonable to expect a single PIC to maintain effective control of a work site and all risk management controls.
The asset owner (or delegate) is responsible for:

- Ensuring all work is undertaken in a safe & responsible manner.
- Reviewing and approving the proposed scope of works.
- Reviewing and approving, and if required varying, the proposed extents of the work Site boundaries and any delineation.
- Reviewing and approving, and if required varying, the identified risk managements controls, including the use of master and subsidiary permits to work for major works where there are a number of work groups undertaking different tasks with different risk control measures.
The asset owner (or delegate) is also responsible for:

- Judging and approving the appointment of Persons in Charge of permits to work to ensure that they are competent and confident in leading the work and risk controls while they are “in charge” of the work covered by the permit.

- Determining and directing the Suspension, Reactivation or Cancellation of a PTW.
  - A suspension, reactivation or cancellation of a permit can happen at any time as directed by the Asset Owner or delegate for safety or operational reasons.

The asset owner or delegate shall ensure co-ordination of all activities on their assets ensuring that any potential conflicts are addressed.
Authorised Issuing Officer is accountable for:

- Ensuring all work is undertaken in a safe & responsible manner.
- Ensure equipment / work site are safe prior to issue of PTW and describe hazards/danger points by:
  - Preparing and arranging independent checking of schedule of planned operations (SOPO);
  - Performing plant isolations using “Danger – Do Not Operate” Tags and yellow isolation locks in accordance with prior prepared and checked schedule of planned operations (SOPO).
  - Confirm the need for, extent of, and establish work site delineation prior to issuing a permit to work.
- Liaise with PIC to clarify scope of work and any special tooling, vehicles or plant to be used and ensure any additional control measures are identified
- Liaise with PIC to appoint safety observer if required
Roles & Responsibilities - Summary

Authorised Issuing Officer is accountable for:

- Check currency of PIC authorisation and that the PIC is competent and confident to lead the work covered by the PTW
- Giving permission to commence work, receive handback of PTW and return the plant to service if safe to do so after handback.
- Identify and approve the conditions under which isolation, operational earths and additional safety measures can be varied for testing.
- An authorised issuing officer shall ensure that they have authorisation from Hydro Tasmania and are competent and confident to fulfil the role of the authorised issuing officer at the work site and for the work scope with regards to the issuing of permits to work.
Person in Charge is accountable for:

- Ensuring all work is undertaken in a safe & responsible manner.
- Ensure current copy of SWP and PTW and Isolation procedures available at work site.
- Determine if AIO is authorised to issue PTW, and that if a Group Isolation is used, that the AIOs green lock is locked on to the Group Isolation Board.
- Ensuring that the equipment/work site covered by the PTW is safe for work.
- Ensure all work party have current L2 and L3 inductions and IP training
- Ensure that work party understand the work and the extent of the work site, hazards and danger points, agreed controls, signed onto PTW, placed personal locks, work safely and conduct regular Take 5 assessments.
Person in Charge is also accountable for:

- Controlling the work site by being present (to the extent necessary to exercise responsibility) and removing all persons from work site if unable to appoint another PIC immediately.

- Ensuring, where testing is approved, all Instructed persons, cease work, and remove their personal isolation locks prior to commencing testing where the plant is to be considered “live” and “operational”.

- Ensuring that a change of condition/test sheet is completed and signed off by the whole work party prior to and at the completion of each test step where risks, conditions or isolations change (or at any time new hazards are identified or risks change).

- On completion of work, PIC shall ensure that all instructed persons have signed off the PTW, removed their Personal Isolation Locks, informed the PTW is to be handed back, are located in a safe environment and clear of the equipment/work site.
Key changes to roles and authorities in permit to work system

**Person in charge (Key Points)**

- The PIC is literally **THE “person in charge”** of the work as described in the scope of work on the permit to work, including all the risk control measures as agreed and approved on the permit to work.

- Needs to be PIC trained in terms of knowing their role in the permit to work and isolation processes as a **minimum**.

- **The key point is that the PIC must be competent and confident to be in charge of the work covered by the permit scope & methodology.**
  - This means the right person will need to be planned and allocated to be the PIC and that not anyone with a “PIC” stamp in their passport can perform **ALL** jobs.
  - The person allocated to be the PIC must also consider that they are competent and confident to be in charge of the work and must challenge their selection if necessary.
Roles & Responsibilities - Summary

**Work Party (Instructed Persons)** are accountable for:

- working safely, ensuring their own safety and that of their work mates.
- reviewing the Job Hazard Analysis and specific job procedures and the agreed control measures of the PTW and understand all the hazards in the workplace.
- verifying green Issuing Officer lock is attached to group isolation board
- signing on to the work party status sign on/off sheet and attaching red personal isolation lock to group isolation board
- completing work in accordance with the JHA, specific job procedures and PIC instruction
- communicating with the PIC and work party throughout the work activity
- maintaining the specific work party tracking requirements during the work activity
- signing off the work party status sign on/off sheet and removing red their personal isolation lock from the group isolation board before leaving site or on completion of the work.
Safety Observer (when used as a risk control) is responsible for:

- Ensuring that work is being undertaken safely as their sole focus.
- Understanding the extent of the equipment / Work Site covered by the PTW.
- Understanding the specific Hazards / Danger Points associated with the equipment / work site.
- After each absence from the worksite the safety observer shall reconfirm worksite risks and what process needs to be followed to control the risk.
- Signing on and off the PTW as a Safety Observer.
- Performing the role of a Safety Observer exclusively and not performing any other task.
- Being positioned at a suitable location to effectively observe and be able to immediately communicate with workers performing the work.
- Warning against unsafe approach to Energised or moving equipment.
- Stopping work processes to prevent unsafe situations from arising.

Note: The PIC of a PTW shall not perform the role of Safety Observer.
Visitors

- Visitors **shall** only be given access to visit work sites controlled by a permit to work after they have been given approval by the person in charge and received a work site introduction. They are to wear appropriate PPE as directed by the PIC.

- Visitors **shall** remain under the direct and continuous supervision of the person in charge, or their delegate, who are currently signed on to the PTW (and locked on where required).

- The person in charge **shall** ensure that the visit does not compromise the permit to work conditions.
PTW authorisations are formalised in an authorisation register – BUSOPS - 123484

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**BUSOPS - 123484**
Asset owners and their delegates are formalised in an asset owner unrestricted delegation register – BUSOPS - 123484

| Area               | Asset Owner     | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate | Delegate |
|--------------------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Murray Parth       | Greta Power Stn | Dun Emmett | Peter Ford | Terry Hope | Philip Keep | John Philip | Brandon Grav | Craig Emmett |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|                    | Greta Power Stn | Dun Emmett | Peter Ford | Terry Hope | Philip Keep | John Philip | Brandon Grav | Craig Emmett |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|                    | Brulle Creek Pk | Dun Emmett | Peter Ford | Terry Hope | Philip Keep | John Philip | Brandon Grav | Craig Emmett |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|                    | Brulle Creek Rd | Dun Emmett | Peter Ford | Terry Hope | Philip Keep | John Philip | Brandon Grav | Craig Emmett |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|                    | Brulle Creek Rd | Dun Emmett | Peter Ford | Terry Hope | Philip Keep | John Philip | Brandon Grav | Craig Emmett |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
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Asset owners delegates are formalised in an asset owner restricted delegation register – BUSOPS - 123484

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Authorised issuing officers domains

Technical & Operations
- Hazardous & Restricted Areas
- Direct, Personal and Group Isolations
- Switchyards, Cable Tunnels
- Penstocks, Pipelines
- Generators, Turbines & Pump Stations

Technical & Operations
- Civil Works
- Generally Controlled by Personal or Direct Isolation
- Canals, Flumes, Riverbeds
- Dams and Spillways

Facilities
- Generally Controlled by Personal or Direct Isolation
- Lakes, Roads, Lands & Buildings

AIO Authorisations
Hydro Tasmania has three levels of AIO authorisation and training matching three identifiably different domains.

- Facilities Maintenance
- Civil Works & Assets
- Hazardous or Restricted Mechanical, Electrical & Civil installations.

Specific qualifications and competencies are required for each area of authority along with the responsible officer, or delegates authorisation.

Minimum Requirements For Work on Hydro Tasmania Hazardous or Restricted Sites

- General Health, Safety & Environment Induction (Level 2)
- Site Specific Induction (Level 3)
- First Aid level 1 for Contractors, level 2 for Employees.
- HT Instructed Person / Hazardous & Restricted Area Training
- Mandatory PPE (for specific site)
## Authorised issuing officers register – Technical & Operations Assets

### Permit to Work Authorised Issuing Officer (PTW-AIO-TAO)

Technical and Operations - Generation Assets - High Risk Restricted Areas

Authority to issue PTW for Switchyards, Cable Tunnels, Penstocks, Pipelines, Generators, Turbines, Pump Stations, all Operational areas within a Power Station and Pump stations

<table>
<thead>
<tr>
<th>Name</th>
<th>ESI Passport Number</th>
<th>Operator Authority Commencing Date</th>
<th>PTW &amp; Isolation Assessment Date</th>
<th>Refresher Due Date</th>
<th>Authorisation Status</th>
<th>Specific Area(s) or equipment authorisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew Howard</td>
<td>205277</td>
<td>04/01/2006</td>
<td>24/03/2011</td>
<td>23/03/2013</td>
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<td>Poatina &amp; Trevally</td>
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<tr>
<td>Terry Ives</td>
<td>207476</td>
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<td>13/04/2011</td>
<td>12/04/2013</td>
<td>Current</td>
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<td>Philip Keep</td>
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<td>04/05/2011</td>
<td>03/05/2013</td>
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<tr>
<td>Michael Knowles</td>
<td>201763</td>
<td>09/01/2006</td>
<td>16/03/2011</td>
<td>15/03/2013</td>
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<td>Poatina &amp; Trevally</td>
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<tr>
<td>Paul McNab</td>
<td>207576</td>
<td>07/11/2009</td>
<td>05/05/2011</td>
<td>04/05/2013</td>
<td>Current</td>
<td>Gordon &amp; Lower Derwent</td>
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<td>Ben Morice</td>
<td>209230</td>
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<td>15/04/2011</td>
<td>14/04/2013</td>
<td>Current</td>
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<td>Scott Newett</td>
<td>208189</td>
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<td>14/03/2013</td>
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<td>Steve Norman</td>
<td>209150</td>
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<td>Adam Page</td>
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<td>John Phillips</td>
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<td>04/08/2011</td>
<td>01/08/2011</td>
<td>31/07/2013</td>
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<td>West Coast &amp; Upper Derwent</td>
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<tr>
<td>Name</td>
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<td>Audit Date</td>
<td>Authorisation Status</td>
<td>Specific Area(s) or equipment authorisation</td>
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<td>Larry McCallum</td>
<td>17/09/2011</td>
<td>16/09/2012</td>
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<td>Upper Derwent</td>
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<td>Deep Creek Cut Gate</td>
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<td>Stephen Mott</td>
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<td>Lemoonthyme Power Station</td>
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<td>Fisher Power Station</td>
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<td>West Coast</td>
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<td>Macintosh Power station</td>
<td>Headworks, Intakes, Stop logs</td>
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<td>Bastyan Power Station</td>
<td>Headworks, Intakes, Stop logs</td>
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<tr>
<td>Colin Clements</td>
<td>25/08/2011</td>
<td>24/08/2012</td>
<td>Current</td>
<td>Lower Derwent</td>
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<td>Liaoopotha Power Station</td>
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<td>Repulse Power Station</td>
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<td>Meadowbank Power Station</td>
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</table>
Authorised issuing officers register
– Civil Assets, Land & Facilities

### Permit to Work Authorised Issuing Officer (PTW-AIO-CIV)

**Civil Assets**

Authority to issue PTW for Flumes, Tailrace, River beds, Dam, Spillways, Canals, Roads and Bridges

<table>
<thead>
<tr>
<th>Name</th>
<th>ESI Passport Number</th>
<th>PTW &amp; Isolation Assessment Date</th>
<th>Refresher Due Date</th>
<th>Authorisation Status</th>
<th>Specific Area(s) or equipment authorisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angus Swindon</td>
<td>207484</td>
<td>25/03/2011</td>
<td>24/03/2013</td>
<td>Current</td>
<td></td>
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<tr>
<td>Daryl Polzin</td>
<td>209893</td>
<td>25/03/2011</td>
<td>24/03/2013</td>
<td>Current</td>
<td></td>
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<tr>
<td>Tim Cubit</td>
<td>207971</td>
<td>25/03/2011</td>
<td>24/03/2013</td>
<td>Current</td>
<td></td>
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<tr>
<td>Dan Forster</td>
<td>209247</td>
<td>25/03/2011</td>
<td>24/03/2013</td>
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<tr>
<td>Andrew Rumsby</td>
<td>209621</td>
<td>21/03/2011</td>
<td>20/03/2013</td>
<td>Current</td>
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</tr>
<tr>
<td>Scott Newett</td>
<td>208189</td>
<td>15/03/2011</td>
<td>14/03/2013</td>
<td>Current</td>
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<tr>
<td>Peter Rainbird</td>
<td>203662</td>
<td>15/03/2011</td>
<td>14/03/2013</td>
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</table>

### Permit to Work Authorised Issuing Officer (PTW-AIO-FAC)

**Land and Facilities**

Authority to issue PTW for Lakes, Construction Sites, Roads, land and facilities

<table>
<thead>
<tr>
<th>Name</th>
<th>ESI Passport Number</th>
<th>PTW &amp; Isolation Assessment Date</th>
<th>Refresher Due Date</th>
<th>Authorisation Status</th>
<th>Specific Area(s) or equipment authorisation</th>
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</thead>
<tbody>
<tr>
<td>Phillip Heard</td>
<td>208175</td>
<td>22/03/2011</td>
<td>21/03/2013</td>
<td>Current</td>
<td>Tasmanian non-Production Buildings and Offices</td>
</tr>
<tr>
<td>Ken Siddall</td>
<td>207471</td>
<td>23/03/2011</td>
<td>22/03/2013</td>
<td>Current</td>
<td>Tasmanian non-Production Buildings and Offices</td>
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</table>
## Permit to Work Authorised Issuing Officer (PTW-AIO-DIV)

**Diving**

Authority to issue PTW for Diving Permits

<table>
<thead>
<tr>
<th>Name</th>
<th>PTW &amp; Isolation Assessment Status</th>
<th>Valid from</th>
<th>Valid to</th>
<th>Diving Permit Assessment Status</th>
<th>Valid from</th>
<th>Valid to</th>
<th>Authority to Issue PTW and Diving Permits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack Lawson</td>
<td>Current</td>
<td>25/03/2011</td>
<td>24/03/2013</td>
<td>Current</td>
<td>10/10/2011</td>
<td>09/10/2013</td>
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<tr>
<td>Philip Keep</td>
<td>Current</td>
<td>04/05/2011</td>
<td>03/05/2013</td>
<td>Current</td>
<td>11/10/2011</td>
<td>10/10/2013</td>
<td>Current</td>
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<tr>
<td>Brendan Flack</td>
<td>Current</td>
<td>20/04/2011</td>
<td>19/04/2013</td>
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<td>13/10/2011</td>
<td>12/10/2013</td>
<td>Current</td>
</tr>
<tr>
<td>David Price</td>
<td>Current</td>
<td>23/03/2011</td>
<td>22/03/2013</td>
<td>Current</td>
<td>14/10/2011</td>
<td>13/10/2013</td>
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<tr>
<td>Matthew Hodgett</td>
<td>Current</td>
<td>23/03/2011</td>
<td>22/03/2013</td>
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<td>08/10/2010</td>
<td>07/10/2012</td>
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<tr>
<td>Kevin Douglas</td>
<td>Current</td>
<td>16/03/2011</td>
<td>15/03/2013</td>
<td>Current</td>
<td>09/10/2010</td>
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<tr>
<td>Ken French</td>
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<td>05/04/2011</td>
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<td>Current</td>
<td>10/10/2010</td>
<td>09/10/2012</td>
<td>Current</td>
</tr>
<tr>
<td>Robert Williams</td>
<td>Current</td>
<td>23/03/2011</td>
<td>22/03/2013</td>
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<td>11/10/2010</td>
<td>10/10/2012</td>
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<tr>
<td>Roger Morgan</td>
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<td>22/03/2013</td>
<td>Current</td>
<td>12/10/2010</td>
<td>11/10/2012</td>
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</tbody>
</table>
Master and subsidiary permits to work

• Master and subsidiary permits to work may be required as part of a major scope of work where:
  o There are a number of work groups undertaking different tasks, with different risk control measures
  o It is unreasonable to expect a single PIC to maintain effective control of the work site and the identified risk management controls.

• The use of master and subsidiary permits to work shall be approved and enacted by completion of a master permit to work where:
  o The asset owner approves the agreed risk control plan and measures for the major scope of work.
  o Formally delegates his authority to approve work and risk controls for subsidiary permits to work within the approved scope of the master permit to work.
Master and subsidiary permits to work
Subsidiary permits to work log

<table>
<thead>
<tr>
<th>Subsidy Permit Letter</th>
<th>Description</th>
<th>Authorised Issuing Officer</th>
<th>AIO Lock Number</th>
<th>Person in Charge (Original)</th>
<th>Start Time</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
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<tr>
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<tr>
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</table>
Permit to work forms

**Permit to work**

<table>
<thead>
<tr>
<th>Permit to work ID no.</th>
<th>PTW</th>
<th>Authorization handover/permission to commence work</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
</table>

- **Location/equipment/work site**
- **Brief description/scope of requested/proposed work (attach more detailed scope if required)**

**Required/planned date and duration of work**

<table>
<thead>
<tr>
<th>Date</th>
<th>Duration</th>
</tr>
</thead>
</table>

**Work scope approval (all as one of)**

<table>
<thead>
<tr>
<th>Perm No</th>
<th>Request No</th>
<th>Contact No.</th>
<th>Asset owner or delegate</th>
</tr>
</thead>
</table>

**Risk management**

- **Key hazards (control)**
  - Energy sources to be isolated?
  - Hazard isolation procedure
  - Part of power scheme?
  - Collar or blind?
  - Personal safety equipment

**Authorisation testing for confined spaces**

<table>
<thead>
<tr>
<th>Other Reason</th>
</tr>
</thead>
</table>

**Agreed attached additional permits/schedules/controls**

- Isolated/removed
- Person isolation
- Group isolation
- Collar or blind
- Safety observer
- Diving permit
- Testing procedure

**Preparation & agreement that risk controls are adequate**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
</table>

**Hydra Tasmania asset owner or delegate**

- Acknowledge that the work risk controls, timing, conditions and authorisations are acceptable.

**Permit to work – risk control attachment tracking sheet**

<table>
<thead>
<tr>
<th>Attach A</th>
<th>Description</th>
<th>Start Date</th>
<th>End Date</th>
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</thead>
</table>

**Work party - backing & acknowledgement**

<table>
<thead>
<tr>
<th>Name (print)</th>
<th>Contact No.</th>
<th>Sign on</th>
<th>Sign off</th>
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</table>

**Safety observer (if required) - backing & acknowledgement**

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<tr>
<th>Name (print)</th>
<th>Contact No.</th>
<th>Sign on</th>
<th>Sign off</th>
</tr>
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</table>

**Sign off/acknowledgement**

- The work area has been left in a safe and suitable condition, all notes and controls agree and have been completed and no permits closed.

**Permit issued/validity**

- All permits issued and closed with updated.

**Authorization issuing officer**

- [Signature]

---
PTW – risk control tracking sheets
- now part of Permit to Work Forms

### Permit to work– risk control attachment tracking sheet

<table>
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<tr>
<th>Permit to work ID No.</th>
<th>PTW __________________________</th>
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<td><strong>Title/Description</strong></td>
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<td>I</td>
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<td>J</td>
<td></td>
</tr>
</tbody>
</table>
Simple and master permit to work numbering

Simple and master permits to work are to have a unique identification number, created as follows:

- (Station or Location)/date/time (24 hour format) SS DD MM YY HHMM
- Liapootah 15\textsuperscript{th} May 2010 10:13am
  would create >>> LY150510 1013
- Gordon 24\textsuperscript{th} November 2010 3:31pm
  would create >> GO241110 1531

Note. The station/location ID is the Facilities Maintenance Management System station/location abbreviation.

Note: when the PTW is automatically generated in a Word or Excel document the hours and minutes component of the PTW number may retain the colon component of the time. This is absolutely OK as it still serves the intent of generating a unique PTW number. For example, the above permit would be TA221210 10:25
### Master and Subsidiary permit to work numbering example

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Numbering Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Permit</td>
<td>TA221210 1025</td>
</tr>
<tr>
<td>1st Subsidiary permit</td>
<td>TA221210 1025A</td>
</tr>
<tr>
<td>SOPO for isolation</td>
<td>TA221210 1025A / A</td>
</tr>
<tr>
<td>2nd Subsidiary permit</td>
<td>TA221210 1025B</td>
</tr>
<tr>
<td>SOPO for isolation</td>
<td>TA221210 1025B / A</td>
</tr>
<tr>
<td>Confined space permit (day 1)</td>
<td>TA221210 1025B / B</td>
</tr>
<tr>
<td>Confined space permit (day 2)</td>
<td>TA221210 1025B / C</td>
</tr>
<tr>
<td>Hot work permit (day 2)</td>
<td>TA221210 1025B / D</td>
</tr>
<tr>
<td>3rd Subsidiary permit</td>
<td>TA221210 1025C</td>
</tr>
<tr>
<td>SOPO for isolation</td>
<td>TA221210 1025C / A</td>
</tr>
</tbody>
</table>
Permit to work numbering example

- **Permit to work** DG221210 **1320**
  - SOPO for isolation DG221210 **1320 / A**
  - Confined space permit (day 1) DG221210 **1320 / B**
  - Confined space permit (day 2) DG221210 **1320 / C**
  - Hot work permit (day 2) DG221210 **1320 / D**

- **Note:** numbering of risk controls follows the following sequence:
  - A, B, C ...Z, AA, AB ... AZ, BA, BB, BC ... BZ, CA, CB ... CZ ... ZA, ZB, ZC ... ZZ
The person in charge acknowledges the following when signing on:

1. They accept the accountabilities of this role and agree to lead in accordance with site standards and apply agreed risk controls as described above and/or as detailed in attachments.

2. They have been inducted in appropriate safe work practices and the work site introduction has provided them with an understanding of the hazards present on the work site.

3. They are competent and authorised (and authorised where legally required) to carry out the work and role required of them.
Work Party acknowledges the following when signing on:

1. They understand the scope of work, the hazards and risks present and introduced, and commit to fully implementing the agreed precautions and control measures.

2. They have been inducted in appropriate safe work practices and the work site introduction has provided them with an understanding of the hazards present on the work site.

3. They are competent (and authorised where legally required) to carry out the work and role required of them.
The safety observer acknowledges the following when signing on:

1. They understand the scope of work, the hazards and risks present and introduced, and commit to fully implementing the agreed precautions and control measures.
2. They have been inducted in appropriate safe work practices and the work site introduction has provided them with an understanding of the hazards present on the work site.
3. They are competent (and authorised where legally required) to carry out the work and role required of them.
4. They fully understand the role and responsibilities of a safety observer.
5. They shall perform the role of a safety observer exclusively and not perform any other task related to the work activity.
• It is important that the PIC is competent and confident to lead the work described in the PTW scope.
  
  o On the appointment of the initial PIC, the Asset Owner or delegate **AND** finally the Authorised Issuing Officer shall judge whether the proposed PIC is suitable to lead the work based on the PIC’s:
    – Previous experience with the type of work in PTW scope.
    – Understanding of the hazards and risk controls in PTW scope.
  
  o For any subsequent change in PIC, the Asset Owner or their delegate ( who may also be the AIO ) **shall** be consulted and approve any proposed new PIC for the work covered by the PTW.
PTW person in charge transfers
- including Suspension and Reactivation

There are 5 potential scenarios of transferring accountability for a PTW to another PIC:

- **Immediate Transfer** to new person in charge
  - Where the current person in charge is able to transfer PIC responsibilities to another PIC immediately

- **Delayed Transfer** to new person in charge
  - Where the current person in charge is not able to transfer PIC responsibilities to another PIC immediately

- **Unplanned Delayed Transfer** to new person in charge
  - Where the current person in charge is unexpectedly not able to transfer PIC responsibilities to another PIC

- **Suspension of PTW** – transfer to Asset Owner or delegate as PIC until PTW reactivated
  - A PTW may need to be suspended for a number of safety or operational reasons determined by the Asset Owner or delegate.

- **Reactivation of PTW** – transfer to a PIC from Asset Owner or delegate after a suspension
  - When the Asset Owner or delegate determines that the PTW can be reactivated, the PTW is transferred to a PIC as appointed by the Asset Owner or delegate – following a similar process to the “unplanned delayed transfer” procedure.
The transfer of the defect/restriction lock key may be made by:

1. Direct and personal transfer of the key to the new PIC; or
2. Placing key in a secure box locked by combination lock that the next PIC is given the combination for; or
3. Placing key in care of the Asset, Site or Outage Manager to be held securely until the next PIC is available; or
4. A suitable means of transfer jointly agreed between the Asset Owner and PIC.
The current **person in charge** shall:

1. Ensure all work party have signed off the permit to work, removed any personal isolation locks and are clear of the work site.
2. Where the work site is delineated – make area safe including signage.
3. Sign off the permit to work “person in charge - tracking & acknowledgement sheet”.
4. Where there is a group isolation used:
   - Remove own personal isolation lock and place a defect/restriction lock through permit to work sleeve to lock it to group isolation board and place a “Hazard or Unusual Condition Tag” stating “delayed PIC transfer” as the reason on the tag.
   - Transfer the key of the defect/restriction lock via the asset owner or their delegate (outage, site or shift manager) to the new PIC as appointed.
The new appointed person in charge shall:

- Where there is a group isolation used:
  - Attend the work site and receive the key to the defect/restriction lock attaching the permit to work to the group isolation board.

- Confirm status of equipment / work site, hazards / danger points, all control measures, isolation points are locked and their relevant “Do Not Operate” tags attached and understand the status of the work.

- Be aware of and agree to all the risks and controls for the permit to work, then complete and sign on to the “Person in charge - Tracking & acknowledgement sheet” and immediately assume responsibility.
Where the current person in charge is unexpectedly not able to transfer PIC responsibilities to another PIC, the current PIC shall:

- Contact the asset owner or their delegate to advise them of their inability to return to site and any relevant information about the progress and remaining hazards on the worksite if practical to do so.

- Where there is a group isolation used:
  - Transfer the key of the defect/restriction lock to the asset owner or their delegate, or verbally arrange access to the defect/restriction lock key.
  - Under extenuating circumstances the asset owner may decide to forcibly remove the defect/restriction lock to enable the work to continue if the key cannot be reasonably obtained. The lock may be removed by an asset owner or authorised issuing officer after the lock/tag removal form/process has been completed and duly authorised by the responsible officer (Level 1 Manager) or their direct delegate (Level 2 Manager).
The asset owner or their delegate shall determine the need to continue the work with another PIC and select a suitable PIC for the work. If the work needs to be continued with another PIC the asset owner or their delegate shall:

1. where there is a group isolation used, attend the work site and remove the defect/restriction lock attaching the PTW to the group isolation board;
2. “sign off” the current PIC on the “person in charge - Tracking & Acknowledgement Sheet” by writing ”UNPLANNED TRANSFER” where the current PIC would have signed off along with asset owner’s or delegate’s name and the time and date;
3. Replace the defect/restriction lock attaching the PTW to the group isolation board;
4. determine and assign a suitable replacement PIC and provide them with appropriate instruction and information to enable the PIC to safely assume the role of the PIC for that PTW.
5. transfer the defect/restriction lock key to the new PIC.
The new appointed PIC appointed shall:

1. confirm the following have not been changed (seek clarification from an asset owner or their delegate, an authorised issuing officer or previous PIC as required);
   - status of equipment/work site, hazards/danger points, all control measures, isolation points are locked and their relevant “Do Not Operate” tags attached
2. understand the status of the work;
3. be aware of and agree to all the terms and conditions for the PTW, then complete and sign on to the “person in charge - Tracking & Acknowledgement Sheet” and immediately assume responsibility;
4. ensure all work party understand current terms and conditions of PTW and sign on the PTW before they enter the work site and commence work.
## Person in charge

<table>
<thead>
<tr>
<th>Name (Print)</th>
<th>Sign on</th>
<th>Sign off</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Signature</td>
<td>Time</td>
</tr>
<tr>
<td>John Smith</td>
<td><strong>N/A – Initial PIC signed on to PTW</strong></td>
<td>John Smith</td>
</tr>
<tr>
<td>Tony Mann</td>
<td>Tony Mann</td>
<td>16:02</td>
</tr>
<tr>
<td><strong>Unplanned delayed Transfer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tony Mann</td>
<td>Tony Mann</td>
<td>16:02</td>
</tr>
<tr>
<td>John Smith</td>
<td>John Smith</td>
<td>08:10</td>
</tr>
</tbody>
</table>
Suspension of PTW – transfer to Asset Owner or delegate as PIC until PTW reactivated - 1

Where the Asset Owner or delegate determines that a PTW will be suspended they shall liaise with the current PIC to transfer the PTW to the Asset Owner or delegate:

- **If the PIC is on site:**
  - All “working earths” must be removed prior to the Suspension of the PTW.
  - Advise the work party that the PTW is being suspended and ensure that all work party have signed off the PTW, removed any personal isolation locks and are clear of the work site and shall not re-enter it.
  - Where the work site is delineated:
    - close the PTW Area site entry
    - remove “PTW Area” sign for work site entrance
    - apply sign to work site entry “PTW Suspended – Strictly No Entry”
Suspension of PTW – transfer to Asset Owner or delegate as PIC until PTW reactivated

If the PIC is on site:

- Where there is a group isolation used:
  - remove own personal isolation lock and sign off the PTW “person in charge - Tracking & Acknowledgement Sheet”
- Transfer the key and the defect/restriction lock to the asset owner or their delegate
- The Asset Owner or delegate writes “SUSPENDED” on the line below where the previous PIC has signed off, then signs on to the PTW “person in charge - Tracking & Acknowledgement Sheet” and immediately assumes responsibility. This ensures that it is clear who the PIC of the PTW is at all times.
- Where there is a group isolation used:
  - The Asset Owner or Delegate place a defect/restriction lock through PTW sleeve to lock it to group isolation board and place a “Hazard or Unusual Condition Tag” stating “SUSPENDED” as the reason on the tag;
- The Asset Owner or delegate shall then remove the PTW and Group Isolation Board from the worksite.
<table>
<thead>
<tr>
<th>John Smith</th>
<th>John Smith</th>
<th>08:10</th>
<th>17/10/11</th>
<th>John Smith</th>
<th>15:05</th>
<th>31/10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trent Wadley</td>
<td>Trent Wadley</td>
<td>15:05</td>
<td>31/10/11</td>
<td>Suspended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If the PIC is not on site it is assumed that:

- the work party has signed off the PTW and removed personal isolation locks from any Group Isolation Board, and that the PIC has a defect/restriction lock and “Hazard or Unusual Condition Tag” attached to the PTW and Group Isolation Board.
If the PIC is not on site:

- In liaison with the Asset Owner or delegate, the current PIC shall:
  - Remotely provide any relevant information about the progress and remaining hazards on the worksite.
  - Where there is a group isolation used:
    - Transfer the key of the defect/restriction lock to the asset owner or their delegate, or verbally arrange access to the defect/restriction lock key.
    - Under extenuating circumstances the asset owner may decide to forcibly remove the defect restriction lock to enable the worksite to be made safe if the key cannot be reasonably obtained. The lock may be removed by an asset owner or authorised issuing officer after the lock/tag removal form/process has been completed and duly authorised by the responsible officer (Level 1 Manager) or their direct delegate (Level 2 Manager).
Suspension of PTW – transfer to Asset Owner or delegate as PIC until PTW reactivated - 5

If the PIC is not on site:

• The asset owner or their delegate shall:
  
  o where a group isolation used
    – attend the work site and remove the defect/restriction lock attaching the PTW to the group isolation board;
  
  o “sign off” the current PIC on the “person in charge - tracking & acknowledgement sheet” by writing "SUSPENDED – PIC not Present" where the current PIC would have signed off along with asset owner’s or delegate’s name and the time and date;
  
  o The Asset Owner or delegate writes “SUSPENDED” on the line below where the previous PIC would have signed off, then signs on as PIC to the PTW “person in charge - tracking & acknowledgement sheet” and immediately assumes responsibility.
Tracking PIC Transfers
– Suspension if PIC not on site

<table>
<thead>
<tr>
<th>Suspension of PTW (if PIC not onsite)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>This is an example of a Suspension of PTW, where in this case the PIC is not onsite.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Smith</td>
<td>John Smith</td>
<td>08:10</td>
<td>17/10/11</td>
<td>SUSPENDED—PIC not Present Trent Wadley</td>
</tr>
<tr>
<td>Trent Wadley</td>
<td>Trent Wadley</td>
<td>15:05</td>
<td>31/10/2011</td>
<td>Suspended</td>
</tr>
</tbody>
</table>
Suspension of PTW – transfer to Asset Owner or delegate as PIC until PTW reactivated - 6

If the PIC is not on site:

• The asset owner or their delegate shall:
  o Where a group isolation used:
    – place a defect/restriction lock through PTW sleeve to lock it to group isolation board and place a “Hazard or Unusual Condition Tag” stating “SUSPENDED” as the reason on the tag; and then
    – remove the PTW and Group Isolation Board from the worksite to a place under their control.
  
• Directs and ensures that an AIO notes that the PTW is “Suspended” on the Operational Log.
When the Asset Owner or delegate determines that a PTW will be Reactivated they shall:

- determine and assign a suitable PIC and provide them with appropriate instruction and information to enable the PIC to safely assume the role of the PIC for the reactivated PTW.
- transfer the defect/restriction lock key, the PTW and any Group Isolation Board to the new PIC.
- The PTW and Group Isolation board are returned to the worksite, and must remain on site until permit handed back (job completed) or is suspended again.
- The Asset Owner or delegate writes “REACTIVATED” on the line below where the Asset Owner or Delegate has signed off, then signs on as PIC to the PTW “person in charge - Tracking & Acknowledgement Sheet” and immediately assumes responsibility.
- The Asset Owner or delegate directs and ensures that an AIO notes that the PTW is “Reactivated” on the Operational Log.
The new appointed PIC shall then:

- confirm the following have not been changed (seek clarification from an asset owner or their delegate, an authorised issuing officer or previous PIC as required);
  - status of equipment/work site, hazards/danger points, all control measures
  - isolation points are locked and their relevant “Do Not Operate” tags attached
- understand the status of the work;
- be aware of and agree to all the terms and conditions for the PTW, then complete and sign on to the “person in charge - Tracking & Acknowledgement Sheet” and immediately assume responsibility;

• ensure all work party understand current terms and conditions of PTW and sign on the PTW before they enter the work site and commence work.
## Tracking PIC Transfers – Reactivation of PTW

<table>
<thead>
<tr>
<th>Reactivation of PTW</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trent Wadley</td>
<td></td>
<td>Trent Wadley</td>
<td>15:05</td>
<td>31/10/2011</td>
<td>Trent Wadley</td>
</tr>
<tr>
<td>John Smith</td>
<td></td>
<td>John Smith</td>
<td>08:01</td>
<td>11/11/11</td>
<td>Reactivated</td>
</tr>
</tbody>
</table>
Change of conditions or equipment is being tested

• If conditions change or equipment requires testing, it shall be the responsibility of the PIC or the person conducting the test to notify the other employees who have personal isolation locks attached to the equipment isolation points or group isolation board. **This should be recorded and signed off by the PIC and work party on the PTW change of condition/test sheet.**

• Each of these employees shall remove their own personal isolation lock(s) prior to carrying out the testing as the equipment needs to be considered operational while testing.

• If further work on the plant is required after the testing, the isolation shall be fully restored and all workers shall then re-place their personal isolation locks onto the equipment isolation points or group isolation board.
The Change of Condition/Test Sheet is used to record and inform the whole work team of any changes in conditions or risk associated with the work. This may include:

- Insulation testing during brush gear maintenance
- Return to Service Testing
- Changes to Isolations while testing

It is important to ensure any additional risk control measures are in place and that the whole work team is informed if the state of the workplace or equipment is different after the test.

Note: that this form is a mechanism/tool the PIC can use at any time to ensure the whole work party is aware of any change of hazards, risks and controls – even if workers are not signed on to the PTW at the time of the change.
Action if plant is not fit to return to service:

- If work on the plant stops without finishing the work, or otherwise leaves the plant unfit for use, the person in charge shall ensure that the plant is kept out of operation.
- The person in charge will attach an orange ‘Defect/Restriction’ lock and ‘Hazardous or Unusual Condition’ Tag to the group isolation board and advise operational staff of the plant status.
Other Special Permits include:

- Concealed Services
- Hot Work
- Confined Space
- Diving
- Apparatus Interface Statement
Concealed Services & Hot Work Permits

---

### Concealed services permit

<table>
<thead>
<tr>
<th>PTW</th>
<th>Are there any existing services or equipment to be considered? (Yes/No/Sign)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Key hazard identification and controls required

- **Smoke detectors installed?**
- **If working in a confined space has a confined space permit been issued?**
- **Fire suppression in place?**
- **Is area clean and free of combustible materials 2m distance at least?**
- **Any other precautions?**

#### Special conditions of permit issue

- **Key controls: N/A**

---

### Hot work permit

<table>
<thead>
<tr>
<th>PTW</th>
<th>Are there any existing services or equipment to be considered? (Yes/No/Sign)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Key hazard identification and controls required

- **Smoke detectors installed?**
- **If working in a confined space has a confined space permit been issued?**
- **Fire suppression in place?**
- **Is area clean and free of combustible materials 2m distance at least?**
- **Any other precautions?**

#### Special conditions of permit issue

- **Key controls:**
  - N/A

---

### Authorisation handshake

Person in Charge: [Name]

Authorized Issuing Officer: [Name]

---

### Sign Off - Handback

Date: [Date]

Person in Charge: [Name]
1. Determine if place is a confined space

- Is space enclosed or partially enclosed?
  - No
  - Yes
    - Is space intended or designed primarily for other than human occupancy?
      - No
      - Yes
        - Has space an oxygen concentration outside the safe oxygen range?
          - No
          - Yes
            - Has space an airborne contaminant that may cause impairment, loss of consciousness, or asphyxiation?
              - No
              - Yes
                - Has space an airborne contaminant that may cause injury from fire or explosion?
                  - No
                  - Yes
                    - Has space a stored free flowing solid or a rising level of liquid that may cause suffocation or drowning by engulfment?
                      - No
                      - Yes
                        - NOT A CONFINED SPACE
                          - CONFINED SPACE

2. Determine what Permits are required

- Work Identified and Risk Assessment (JHA) completed
  - Confined Space Identified (C3 ID: flow chart)
    - Refer to Permit Requirement Prompt List (attachment B)
      - Is a Permit to Work Required?
        - No
        - Yes
          - Can all the identified hazards and access be controlled by a Permit to Work?
            - No
            - Yes
              - Permit to Work required only (Refer to section 4.2 and attachment B)
                - Permit to Work and a Confined Space Permit required (Refer to section 4.2 and attachment B)
                  - Confined Space Permit required (Refer to section 4.2 and attachment B)
                    - If the Confined Space conditions, work practices, or hazards change
                      - NOT A CONFINED SPACE
                        - CONFINED SPACE
Confined space permit, Signature sheet and Atmospheric Testing sheet
Diving Permit & Mandatory Checklist

Diving permit

Hydro Tasmania

Diving – Check List

Project Number
Outage Manager
Project Title
Site Manager
Client Number
Document Number
Date

Proposed Work Methodology

Work Party
Location
Description

Review of Proposed Procedures & Equipment

Mandatory Requirements

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Control Measure</th>
<th>Checked / Signed &amp; Dated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unidentified Job Specific Hazards</td>
<td>JHA to be carried out by staff detailing the day hazards that could not be practically assessed or prior to attending site in addition to this “Check List”. All staff to sign on to JHA accepting this form and time on the day hazards and controls. JHA has been compiled and approved by the relevant personnel in accordance with the JHA Procedure.</td>
<td></td>
</tr>
</tbody>
</table>

Hydro Hazards - Lack of awareness of local asset and other simultaneous operations

- Project or Outage Manager to notify works party of ALL Hydro Tasmania assets in areas (including Protection PLC, Mechanical, Electrical and Civil Assets) Work party to inspect and make safe

Unplanned Diving being carried out for Hydro Tasmania

- The Diving Checklists “Must” be completed for ALL diving operations conducted on or on Hydro Tasmania assets
- All Planning and Operations sections must be completed and initiated for the Diving Permit to be issued
- Before the Diver enter the water, the ATW and all Special Permits must be issued and a comprehensive Dive Briefing must be completed to all participants
- The Diving Checklists, Special Permits and all other documents associated with the authorisation of the dive operations are to be retained and archived on completion of the work

Concluding the Diving Checklists and observing safe diving procedures are mandatory requirements by themselves as they do not guarantee safety. It is the attitudes and actions of the people involved in the work and their adherence to the established standards that contribute mostly to safe diving outcomes

Occupational Diving Work Coordinator (David Sheed) advised of the requirement for diving work by email or phone.
Apparatus Interface Statement

• Used when interfacing with Aurora or Transend or when our equipment can affect another entities worksite – eg. Environmental studies on the Gordon River requires a change in our operations to provide protection to others.

• Appropriate permitting system to be determined based on who is driving the work and who owns the assets
  
  • ask your Asset Owner if in doubt
Hydro Tasmania – Isolations

Isolation Procedure - Scope

- The isolation procedure is applicable to all work being undertaken at Hydro Tasmania owned and/or operated plant and assets, and elsewhere as a minimum standard if there is no other reasonable standard in place.
- Isolation procedures are designed to protect a worker from unexpected energisation, start-up, or release of energy, while they are working on plant.
- Hydro Tasmania isolation procedure covers 3 categories of isolations:
  - **Directly controlled isolations** where locking and tagging is not necessary.
  - **Personal isolations** where it is practicable for the worker to personally isolate the plant, and the worker is competent and authorised to do so.
  - **Group isolations** where the actual isolation shall be carried out by an authorised issuing officer with appropriate competencies and is authorised to carry out the group isolations on behalf of other workers.
Isolation type flowchart

1. Select isolation type
   - High pressure? High voltage (>1000V)? High energy? Yes → No
   - Work team member competent & authorised to isolate? No → Yes
   - Can isolation effect energy production? Yes → No
   - More than four points of isolation? Yes → No

2. Follow the flowchart based on the answers to the questions.
Isolation type flowchart

- More than 6 workers in team?
  - Yes
  - No
  - Isolation by physical removal or barrier?
    - Yes
    - Means of isolation under direct observation & control?
      - Yes: Directly controlled isolation
      - No: Personal isolation
    - No: Group isolation
    - No: Group isolation
To protect people working on plant from sources of energy associated with that plant, the following general isolation process is necessary:

Note: it remains essential that the work party clearly understand the workplace hazards and controls as well as the scope of the work before commencing the isolation and work:

1. **Stop** the plant.
2. **Isolate**, dissipate or restrain the energy sources.
3. **Lock and tag** or otherwise ensure that the plant can not be re-energised.
4. **Verify** that the isolation, dissipation and restraints are effective.
5. **Sign on** to the permit to work (and lock on if group isolation).
6. **Work on** the plant.
7. **Sign off** the permit to work.
8. **Remove any locks and tags**.
9. **Restore** and re-energise the plant.
Employees likely to require isolation of plant are issued a set of four Personal isolation locks.

Personal isolation locks are red in colour and issued to individuals who need to lock out energy sources. Personal isolation locks are uniquely keyed, have only one key and have the name and employee number of the holder (short term contractors personal details will be at the contractor’s lock sign out area and on an accompanying tag/sticker).

A person shall not lend their personal isolation lock or key to another person.

Loss of a personal isolation lock or a key for a personal isolation lock shall be reported to the lock administration officer.

Only locks that are approved by Hydro Tasmania and meet the criteria of the isolation procedure can be used (red, robust & named).
Personal isolations

- Where possible each worker shall lock every device used for isolating, dissipating or restraining energy on the plant. Lock with red personal isolation locks.
- The locking shall be done with Red personal isolation locks.
- Each worker shall tag every device or other means used for isolating, dissipating or restraining energy on the plant with a ‘Personal Danger Tag’.
- The worker shall write on the tag in the spaces provided:
  - name
  - the reason for isolation/tagging
  - the name of the person (printed)
  - the signature of the person
Group isolations

- The actual isolation shall be carried out by an authorised issuing officer (AIO) holding appropriate competencies and who is authorised to carry out the group isolations on behalf of other workers.
- A schedule of planned operations (SOPO) shall be used to plan and document the work and to check that all isolations are carried out prior to giving permission to start work under the permit to work.
- The authorised issuing officer shall lock every device used for isolating the plant with yellow isolation locks (or other means of immobilisation) and shall tag every isolation point with a “Danger – Do Not Operate” tag.
## Group isolations - SOPOs

### Schedule of planned operations

<table>
<thead>
<tr>
<th>Object(s)</th>
<th>Other stations/equipment involved:</th>
<th>Special notes</th>
<th>Communication of any operational information</th>
<th>Action No.</th>
<th>Location</th>
</tr>
</thead>
</table>

### OPERATING SEQUENCE

Operating action description | Tag | Lock | Time | Status |
---|---|---|---|---|
1 | | | | |
2 | | | | |
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Prepared by: | Date: | Time: |
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Check by: | Date: | Time: |

SOPO (including isolation) assisted and completed by: | Date: | |
---|---|---|

Hydro Tasmania authorised licencing officer - acknowledges that this schedule is accepted, completed and the objectives met. | Date: | |

The following hazards / danger points have been eliminated at the isolation was done:

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Communication of any operational information | Action No. | Location |
---|---|---|

See other side
The SOPO Addition/Deletion Sheet is used to add or delete isolations in the progress of the work – particularly in return to service and commissioning activities.

It is necessary for the whole work party to remove their personal isolation locks from the group isolation board for this to happen.

Before locking on again – a Change of Condition/Test Sheet should be prepared, discussed and signed off by the work party to ensure they are all aware of the changed isolation and conditions and any additional risk control measures before recommencing work.
Group isolation locking and tagging
What to do with operational locks when isolation locks are applied

- Use isolation lock to lock operational lock at location as shown in photograph
Group isolation locking and tagging

Note the yellow isolation locks and “do not operate” tags.
Master SOPO for outages with multiple permit to works – becoming a planning sheet

<table>
<thead>
<tr>
<th>OPERATIONS INVOLVED</th>
<th>SPECIAL NOTES</th>
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**OPERATING SEQUENCE**

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Group isolations

- The AIO shall then place all isolation lock keys in the group isolation board and any remaining isolation locks in the group isolation board or locked to the green issuing officer lock that the AIO shall place on the group isolation board before issuing the permit to work to the authorised person in charge (PIC).
- All workers shall then sign on to the PTW and place their red personal isolation locks on the group isolation board.
- The PIC shall then lock the PTW to the Group Isolation board with their own personal isolation lock.
- Workers shall remove their personal isolation locks at the end of each day / shift and before leaving site.
- Workers may be recalled to remove the locks at their own time and expense.
Group isolations – Example

- PTW Satchel
- Group Isolations Board
- PIC Personal Lock(s)
- Spare Yellow Isolation Locks
- IP Personal Locks
- AIO Green Lock
Removing locks

- Workers **shall** remove their personal isolation locks before leaving site and may be recalled to remove the locks at their own time and expense.

- If any worker has left the site without removing their personal isolation lock from the group isolation board, and it is not practicable to recall the worker to remove them, the lock **shall** be removed by an authorised issuing officer after the **lock/tag removal form/process** has been completed and authorised by the responsible officer (Level 1 manager) or their direct delegate (Level 2 Manager), to ensure that the owner of the personal isolation lock and/or danger tag is safe and no longer on site or around the equipment related to the lock and/or tag.

Note: Removal of locks with this process shall only be used as a last resort. A worker having to drive back to site is practicable no matter how inconvenient.
Earthing is carried out to ensure that an effective discharge of electrical energy to the general mass of earth is maintained for the reasons of personal safety. When work is to be carried out on de-energised high voltage power system equipment, the equipment is to be earthed to ensure no harm to the work party through inadvertent energising, induction or capacitive discharge. Operational earths shall be used to visually bond all three phases together and to bond the phases to earth through a recognised earth point. In addition to operational earthing requirements, work earths shall be utilised during work to minimise the effect of induction through the creation and maintenance of an equipotential work environment. Where conductors are to be disconnected within an isolated and earthed section, and simultaneous worker contact is possible between the two ends or between equipment connected to the two ends, additional work earths, short circuits or bonds must be applied, at the work site, to ensure equipotential work area conditions are maintained across the two ends before such disconnection is undertaken by the work party.
Lock/tag removal key points:

• Ensures person has left site and is not in danger.
• Applicable for removal of any lock or tag
• Sign off (or verbal approval by phone to be noted on form) by Responsible Officer (L1 Manager) or their direct delegate (Level 2 Manager) to ensure due process has been completed.
• Event to be entered into IQMS as an incident with appropriate follow up.
Temporary issue of personal isolation locks:

- Personal locks may be temporarily issued to employees and contractors for a short duration if they do not have their own set with them.
- The issue and return of the locks should be recorded on the form shown here.
- Employees and contractors issued with temporary locks will be charged for any lock sets not returned. (approx $100)
Questions & Assessment

- Do you understand the requirements of the Permit to work and Isolation procedures for your role as PIC, AIO or Asset Owner?

- Now for the assessment – please ask if you don’t understand any of the questions.

- When you finish please let your trainer know.
Congratulations:
you have completed your
Hydro Tasmania - “PIC/AIO/AO” training

No harm to anyone at any time!