MS&L Procedure

PRO-4.5-0001-1-07
Hot Work

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1. Purpose

Whenever BP conducts construction, maintenance, demolition, remediation and other similar work that are typical of our industry, there is the potential for harm to people and the environment and for damage to equipment. This document provides requirements for hot work in support of *PRO 4.5-0001-0-01 Control of Work* and *WPCG-PRO-01 Work Authorisation*.

This procedure sets out a required approach to hot work in accordance with BP's Golden Rules of Safely, the requirements of *GDP 4.5-0001 Control of Work*, Annex 1 and OMS Group Essentials 3.2.1 and 4.5.1. The document defines the requirements that apply to hot work within ANZ MS&L to protect personnel from injury and property from damage.

This procedure specifically details the requirements of the following documents:

- Group Defined Practice (GDP); GDP 4.5-0001_2016 Control of Work

2. Scope

The requirement specified in this procedure applies equally to BP employees, contractors and visitors engaged in the ANZ MS&L business.

Specific sites, areas and activities may have more detailed OMS requirements and where these exist the requirements will be specified in local procedures, safe work instructions, manuals, handbooks or specific standards.

3. Terms, Definitions and Abbreviations

Table 1: Terms, Definitions and Abbreviations

Competent Person	An individual who can demonstrate that they have professional or technical training, knowledge, experience, qualifications and ability to enable them perform duties at the level of responsibility allocated to them.

Green Zone (Air BP)	A designated zone on Air BP ANZ Facilities authorised by the AirBP ANZ Regional Engineering Lead where no foreseeable fire hazards exist from petroleum products or vapours. It shall not include hazardous areas and should be easily delineated on site by geographical features. It shall be clearly identified on a site specific map, displayed at the site (e.g. in the site office). Green Zones are exempt from the requirements of Work Permits, Certificates, and Work Clearances. They remain subject to other control of work requirements including the requirement to risk assess and obtain site authorisation to proceed.
Hazardous Area	Area in which an explosive atmosphere is present or may be expected to be present in quantities such as to require special precautions for construction, installation and use of electrical equipment. Hazardous Areas are classified in accordance with *AS/NZS 60079.10.1.*
Hot work	Work that involves either the use or the creation of a flame, spark or energy discharge that could act as the ignition source for a fire or explosion. Typical examples of hot work include: a) Welding, grinding and oxy cutting; b) Use of battery operated equipment and power tools; c) Abrasive blasting (i.e. sandblasting); d) Power cutting / drilling; e) Crane operations; f) Use of excavators; g) Use of generators and welding machines; h) Use of mobile plant such as elevated work platforms
JSA	Job Safety Analysis. A risk assessment of the works to be undertaken.
Permit	A formal and detailed agreed document that contains location, time, equipment to be worked on, hazard identification, mitigation / precaution measure(s) used and the names of those authorising the work and performing the work.
Red Zone (Air BP)	A designated zone on Air BP ANZ Facilities, authorised by the AirBP ANZ regional Engineering Lead where foreseeable fire hazards exist from petroleum products or vapours. It shall as a minimum include hazardous areas and should be easily delineated on site by geographical features. It shall be clearly identified on a site specific map, displayed at the site (e.g. in the site office). As a minimum a WPCG Work Clearance is required for all Hot work within Red zones and outside hazardous areas. Work Permits with associated Hot Work Certificates are mandatory for all hot work within Hazardous areas.
Restricted Area	Is that area in which BP exercise control over movements and operations such as the area within the boundary fence of Depots or service stations, owned or leased by BP.
Safe Work Method Statements (SWMS)	The SWMS identifies the tasks to be undertaken in the work, the associated hazards and shall identify suitable control measures and the responsible person(s) for their implementation. The SWMS is the formal risk assessment of the works to be permitted. Some organisations or regions (e.g. New Zealand) may instead refer to this as a JSA.
Task	An action or series of actions in support of a piece of work.
WHS	Workplace Health and Safety
Work	An endeavour made up of a number of different tasks.
Work Place Clearance Group (WPCG)	The Work Place Clearance Group (WPCG) is an unincorporated joint venture of which BP Australia is a partner.

4. Roles and Responsibilities

The roles and responsibilities associated with this procedure are listed in the following table.

Table 2: Roles and Responsibilities

Planner	The person planning the hot work is responsible for ensuring that the Permit Receiver is communicated the requirements of this procedure as part of the planning process prior to work. This may be discharged through the Permit Officer if the work is conducted under a work permit. The planner role is often not a dedicated role and may be fulfilled by Project Manager, Project Engineer, Regional Maintenance Coordinator, etc.
Permit Receiver	The Permit Receiver is responsible for: a) The provision of a JSA / SWMS. Note that this is also legally required for all High Risk work in jurisdictions in Australia operating under the model WHS regulations. b) Indicating to the Permit Officer if any of the requirements of a Work Permit or Hot Work Certificate are ambiguous or unclear. c) Indicating to the Permit Officer if any of the requirements on a Work Permit or Hot Work Certificate are ambiguous or unclear. d) Signing the Work Permit before work commences thereby accepting any conditions or controls stipulated in the Work Permit and documents referenced on the Work Permit; e) Ensuring that all workforce members read and understand the risk assessment and Work Permit and acknowledge this by signing the Work Permit; f) Ensuring that skilled, qualified, trained and competent personnel perform the work, adhering to the conditions of the Work Permit or Work Clearance; g) Ensuring that the job is performed in a safe manner within the conditions prescribed and be responsible for the work and for the people who work on the job.
Permit Officer	*WPCG-PRO-01 Work Authorisation* documents the responsibilities of the Permit Officer for Work Permits including associated Hot Work Certificates.
Site Representative	The Site Representative shall be the Site Manager or delegate, or if the site is unmanned it may be the Permit Officer. The Site Representative is responsible for the overall safety of the site. The Site Representative is responsible for communicating to the Permit Officer (work under a Work Permit) or Permit Receiver (work performed with a Work Clearance) the site operations that may affect the lifting operations. They shall also ensure that other parties on site that may be affected by the lifting operations are informed. No works shall be undertaken before the Site Representative countersigns the work permit or work clearance form.

5. Methodology - Hot Work

5.1. Requirements for Hot Work

Hot work shall not proceed unless the following requirements are met:

a) A site and task specific risk assessment has been conducted.

b) Work is authorised by completion of a Work Permit or Work Clearance, as applicable, in accordance with requirements of *WPCG-PRO-01 Work Authorisation.*

c) Potential fuel sources, flammable and combustible materials have been:

- **1. Identified**. Prior to work a work site inspection shall be conducted by the Permit Receiver, and also the Permit Officer in the case of work requiring a Work Permit, to identify any potential fuel sources, flammable or combustible materials.
- **2. Isolated**. Where equipment requires isolation this shall be conducted in accordance with *PRO 4.5-0001-1-02 Energy Isolation.*
- **3. Removed** from the immediate worksite where the hot work is to take place.

Any further required actions to remove the presence of fuel sources, flammable or combustible materials shall be recorded on the risk assessment for the task and any associated work permits.

d) Stored energy from associated process systems has been discharged. Equipment required to be de-pressured shall be done so in accordance with *PRO-4.5-0001-1-02 Energy Isolation* and *WPCG-PRO-01 Work Authorisation.*

e) For Hot Work within Hazardous Areas:

- 1. The requirements of *WPCG-PRO-01 Work Authorisation* are followed including the requirements hot work in hazardous areas.
- 2. A competent person performs a gas test of the worksite prior to the work commencing. This shall be completed in accordance with *WPCG-PRO-01 Work Authorisation*.
- 3. The atmosphere is monitored.
    i. Continuous gas monitoring is required for hot work involving the use of or creation of flames sparks or energy discharge inside hazardous areas. This type of work includes burning, welding, grinding, air arcing, soldering, open flame, stress relieving, preheating or any similar activity that creates an uncontrolled ignition source.

    ii. The frequency of gas detection for spark potential activities shall be determined in the risk assessment for the task. As a minimum it shall be tested prior to the commencement of work. This type of work includes mains or battery-powered equipment (not certified for use in classified hazardous areas) such as: electrical test equipment, cordless drills, inspection and survey tools, digital cameras, mobile phones and laptops, hand-held instruments, radiography (X-ray source), and scissor lifts.

iii. Persons shall be instructed to stop all hot work, make the area safe and inform the Permit Officer (for work under a Work Permit) or the Permit Receiver (for Work Clearances) immediately in the event the gas detector alarms to indicate LEL ≥ 10%.

- 4. Levels of oxygen (O^2) and flammable substances are kept within safe working ranges to verify that the worksite environment does not exceed pre-defined limits. Hot work shall be stopped if LEL exceeds 10% or O^2 is not between 19.5% and 23.5%.
- 5. The risk assessment associated with hot work in hazardous areas should consider if it is required to cease work during tanker deliveries to Retail sites and if work is not to recommence until 30minutes after delivery.

f) For Hot Work outside Hazardous Areas:

- 1. A Work Clearance is completed (as a minimum) or a Work Permit is issued, in accordance with *WPCG-PRO-01 Work Authorisation*
- 2. The risk assessment associated with hot work outside hazardous areas on Retail sites should consider if it is required to cease work during tanker deliveries or in the event of a product spill and if work is not to recommence until 30 minutes after delivery. This is a requirement of the WPCG Work Clearance process and is therefore needed for all hot work authorised by a WPCG Work Clearance.

g) Employees understand the risks and control measures specified in the permit. The Work Permit shall be delivered verbally by the Permit Officer to the Permit Receiver prior to job start and all personnel are required to sign on to the Work Permit, to acknowledge that they understand the hazards and shall comply with the conditions of both the work permit and the JSA/SWMS. If the contractor has a JSA/SWMS sign on sheet that references the work permit set and stipulates all personnel signed acknowledge that they understand and shall comply with the conditions of both the work permit and the JSA/SWMS then this may be used to meet this requirement of acknowledgement.

h) Grinders greater than 180mm (7inches) shall not be used.

i) The following are in place to respond to potential incidents, based on the task risk assessment:

- **1. Emergency response procedures.**

  The risk assessment for the task shall consider the emergency response for residual risks identified. If the standard site emergency response plan or procedures do not adequately cover response to risks identified in the risk assessment for the task then they shall be developed in the risk assessment and rehearsed where required. The emergency response shall be noted on the Work Permit or Work Clearance (as applicable) or on a cross referenced risk assessment or rescue plan for the task. This may be via a reference to the site emergency response plan or procedure if this is appropriate. The required emergency response shall be clearly communicated to the Permit Receiver.

- **2. Response employees.**

  Persons shall be competent in any emergency response role that they are to fulfil, e.g. the use of fire extinguishers or first aid.

- **3. Equipment.**

  i. First Aid kits deemed necessary for the task are required to be current, and Fire Extinguishers tested and tagged in accordance with local regulatory requirements.

  ii. As a minimum, 2 x 9kg dry chemical powder fire extinguishers (additional to site fire extinguishers) are required for all hot work that involves the creation of sparks and flames, e.g. oxy cutting, welding and grinding activities, and where deemed required by the risk assessment for the task. Fire Extinguishers are required to be tested and tagged in accordance with local regulatory requirements.

  iii. All specialist rescue equipment on standby shall be tested and certified in accordance with manufacturer's specifications and local regulatory requirements.

6. Verification

The key process steps outlined in this procedure shall be included in a Self-Verification Programme.

Refer to PRO-8.2-0001-0-01 MS&L Self Verification Procedure for further details to developing self-verification protocols.

7. Associated Documents

7.1. Documents

The following associated documents:

- Have been referenced in this procedure.
- Should be considered in understanding and applying the instructions provided in this procedure.

Table 3: Required References

Document Name	Document No	Document Location
Group Defined Practice - Control of Work	GDP 4.5-0001 2016	OMS Library
WPCG Work Authorisation	WPCG-PRO-01	WPCG website
Energy Isolation	PRO-4.5-0001-1-02	Controlled Document Register
MS&L Self Verification Procedure	PRO-8.2-0001-0-01	Controlled Document Register

7.2. Records

The risk assessment for the task, and any applicable Work Permit or Work Clearance shall be displayed and retained in accordance with *WPCG-PRO-01 Work Authorisation.*

8. External References

This procedure was prepared with reference to relevant legislation/regulations including but not limited to, relevant Acts, Regulations, Australian Standards and industry codes and practices.

Details of current legislation/regulations can be provided by the HSSE Team on request.

9. Version Summary

The table below provides a summary of version history of this procedure.

Table 4: Document Version Summary

Version	Prepared by	Description of Change	Date	MoC
1	Adrian Connolly	Document created - Initial release	14 Nov 2014	
2	Adrian Connolly	Minor update to improve formatting and readability only. Addition of consideration for ceasing work during tanker deliveries to Retail sites.	18 May 2016	
3	Adrian Connolly	Updated to incorporate WPCG Minimum Controls Checklist implementation	12 Sep 2017	
4	Adrian Connolly	Update to implement WPCG-PRO-01 Work Authorisation and moved to current template	22 Aug 2018	11449

End of Document