Business Procedure

Hot Work
Document Number – OHS-PROC-128

This document applies to the following sites:

All Sites	☐				
Rockhampton Office	☐	**Brisbane Office**	☐	**Tarong Site**	☒
Barron Gorge Hydro PS	☒	**Kareeya Hydro PS**	☒	**Mica Creek PS**	☒
Koombooloomba Hydro PS	☒	**Swanbank PS**	☒	**Mackay Gas Turbine**	☒
Wivenhoe Small Hydro PS	☐	**Stanwell PS**	☒	**Meandu Mine**	☐

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1.0 Purpose

This Business Procedure defines Stanwell's minimum mandatory requirements for performing hot work at Stanwell workplaces.

Hot work includes any activity that:

- produces a flame, heat source, fire or spark which may increase the risk of fire or explosion; or
- introduces a non-certified ignition source into a classified hazardous area.

Examples of the above include:

- welding, grinding, heating, thermal, friction or oxygen cutting;
- taking / using communication devices, combustion engines, torches, battery or mains powered tools into a hazardous area;
- maintenance of plant that could create an explosive gas atmosphere; and
- activities creating a large explosive dust cloud.

Hot work does not include the use of tools (such as drills, saws etc.), in an area that is not a classified hazardous area.

2.0 Scope

This Business Procedure applies throughout Stanwell, all its sites and all activities under Stanwell's control. It applies to all Stanwell employees and contractors, including visitors to Stanwell workplaces.

3.0 Actions

3.1 Safe Work System Requirements

Where eliminating the need to perform hot work is not practicable, hot work techniques that minimise the potential for harm, for example, undertaking hot work in a designated hot work area, must be selected.

It must be ensured that:

- all hot work is planned;
- all equipment used for hot work is suitable and inspected;
- personnel involved in hot work are trained and competent; and
- hot work is risk assessed to identify potential hazards and make sure suitable risk control measures are in place.

Hot work must be managed under the Safe Work System if the hot work is undertaken outside of a designated hot work area.

Hot work undertaken at designated hot work areas does not trigger the Hot Work SWA criteria but the relevant hazards are still required to be managed and controlled.

Identified hazards shall be managed, and controls documented in the SWA / HIRA / SWMS.

3.1.1 Emergency response

It must be ensured that an emergency response plan is in place to deal with hot work related incidents, such as:

- fire and explosion;
- exposure to hazardous chemicals; and
- electric shock (e.g. welding in wet environments).

3.2 Designated Hot Work Areas

Hot work areas must be designated in each workplace. These areas must be suitable to undertake hot work tasks safely and:

- not be located in an area that will create a risk of fire or explosion, for example, near a flammable or combustible goods storage area;
- have adequate demarcation and signage in place;
- have adequate lighting;
- be regularly monitored to make sure flammable materials are correctly stored;
- be free from water and damp conditions (for electrical safety);
- have adequate natural or mechanical ventilation;
- be contained using adequate screens and barriers; and
- must contain adequate fire and emergency provisions such as fire extinguishers and fire detection systems.

3.3 Work Environment Requirements

3.3.1 Housekeeping Requirements

It must be ensured that adequate controls are implemented to protect nearby workers from the hazards associated with the hot work activity, for example:

- blinds or shielding, barricades or doors to prevent personnel being exposed to hot work hazards such as flashes and noise; and
- screens and mats to prevent sparks escaping.

3.3.2 Energy Sources

It must be ensured that all potentially hazardous energy sources have been removed or isolated from the area where hot work is being undertaken, for example:

- compressed air systems;
- hydraulic systems;
- fuel systems;
- batteries; and
- flammable and combustible materials.

3.3.3 Ventilation

It must be ensured that an area where hot work is performed has adequate ventilation to allow heat, fumes and other atmospheric contaminants to dissipate from the work area.

The choice of ventilation system must take into account

- the amount and type of fumes and contaminant produced;
- the proximity and location of the hot work process relative to the ventilation system;
- the level of ventilation, natural or mechanical, this will also depend on screens and partitions which may restrict cross-flow at the work area; and
- the proximity of the worker's breathing zone to the fume source.

It must be ensured that adequate control measures are implemented where hot work is undertaken in a hazardous area or within a confined space, refer to Confined Space Business Procedure OHS-PROC-18.

3.4 Plant and Equipment Requirements

3.4.1 Cylinder Requirements

Requirements for safe storage and handling of gas cylinders include:

- maintain and regularly check cylinders, regulators, hoses and pipes to cylinders to make sure that there are no leaks, dents, cuts or burn marks;
- use flash back arrestors on gas hoses to prevent the flames travelling back and igniting the gas in cylinder;
- store cylinders in an upright position to make sure the safety device functions correctly;
- secure cylinders to prevent dislodgement;
- transport cylinders with appropriate equipment such as trolleys or gas cages;
- keep the cylinder valve closed when the cylinder is not being used;
- keep all sources of heat and ignition away from gas cylinders, even if the cylinders do not contain flammable material; and
- store cylinders outdoors or in well ventilated areas.

Permanent cylinder storage areas are to be maintained in accordance with legislation and relevant Australian Standards and such that:

- where applicable, lighting in the area is to be certified in accordance with AS 2380.1:1989 Electrical equipment for explosive atmospheres – Explosion protection techniques;
- cylinders are kept away from heat and ignition sources and combustible materials, vegetation at a distance of not less than three (3) metres;
- adequate ventilation is provided; ventilation should be adequate to maintain exposure levels to any gases in the store below recommended exposure standards and lower explosive limits and to maintain safe oxygen levels;
- cylinders are adequately segregated and secured;
- warning signs to prohibit smoking and exclude other sources of ignition and signage restricting entry, for further information refer to Barricading and Signage Business Procedure OHS-PROC-134; and
- adequate placarding is erected.

3.4.2 Equipment Requirements

It must be ensured that all hot work equipment is used, maintained and inspected in accordance with the requirements of the legislation and relevant Australian Standards.

3.4.3 Personal Protection Equipment Requirements

It must be ensured that any person conducting hot work uses appropriate personal protective equipment (PPE) that meets all the Australian Standard requirements. This may include gloves, double eye protection if performing grinding or cutting task, respiratory protection, welding spats, jackets etc.

3.5 Safe Work Practice Requirements

3.5.1 Radiation

Adequate control measures must be implemented to protect workers from exposure to heat / arc radiation. It must be ensured that non-flammable screens and partitions are used for hot work activities and adequate PPE is used.

3.5.2 Airborne Contaminants

It must be ensured that workers are not exposed to a substance or mixture in an airborne concentration that exceeds the relevant exposure standard.

It must be ensured that risks associated with the use of hazardous chemicals during hot work are identified and managed in accordance with Hazardous Chemicals Business Procedure OHS-PROC-108.

- Air monitoring to determine the airborne concentration of a substance or mixture to which an exposure standard applies, must be carried out, if there is uncertainty on reasonable grounds whether or not the airborne concentration of the substance or mixture at the workplace exceeds the relevant exposure standard; and/or
- monitoring is required to determine whether there is a risk to health.

3.5.3 Fire and Explosion

It must be ensured that the work area is inspected (including the surrounding area) after hot work has been completed to make sure that no smouldering materials remain.

A designated Fire Watch must be used where identified as a control in the hot work risk assessment. Generally, 30 minutes is appropriate as the fire watch period, post work completion. Also consider whether post work checks are required at certain intervals (e.g. perform a check every 30 mins after work completed), for up to four hours. This is especially important for work around fuel handling systems and cable ways.

All hot work areas must contain adequate ready-to-use fire fighting equipment as identified in the hot work risk assessment.

Where the work area is protected by fire detection or suppression systems, isolations may be required.

4.0 Training and Competency Requirements

It must be ensured that all personnel involved in hot work activities are trained and competent as per Stanwell's requirements.

5.0 Review, Consultation and Communication

Review:
This document is required to be reviewed, as a minimum, every 5 years.

Consultation:
Personnel consulted during the review of this document include the Corporate Health and Safety team as well as any other personnel who have an interest in the process.

Communication/Requirements after Update:
This Business Procedure will be communicated to sites by an e-mail from the Manager Health and Safety and on GenNet.

6.0 References

Source	Reference
Australian Standards	• AS 2380.1:1989 Electrical equipment for explosive atmospheres – Explosion protection techniques
Business Procedures	• Barricading and Signage OHS-PROC-134 • Confined Space OHS-PROC-18 • Hazardous Chemicals OHS-PROC-108
Stay Safe	• Hot Work Stay Safe OHS-PROC-128A
Tools	• Nil

7.0 Definitions

Term	Meaning
Competent Person	A person who through a combination of training, education and experience has acquired knowledge and skills enabling that person to perform correctly a specified task.
Designated Hot Work Area	An area in which typical hot work tasks (such as welding, grinding, cutting, etc.) may be undertaken safely and with confidence that: • adequate fire response controls are easily accessible in the area; • flammable or combustible fuels / items are well clear of the hot work task (consider a 15m area around the hot work task); • there is adequate ventilation, lighting, space and work surfaces to easily perform the hot work tasks without additional hazards being created; and • there is adequate shielding, floor / catch protection and PPE in the location to ensure the safety of those performing hot work tasks and those in close vicinity to the tasks.
Hazardous Area	An area in which an explosive atmosphere may be present, or may be expected to be present, in quantities such as to require special precautions for the construction, installation and use of potential ignition sources.
Hot Work	An activity that: • produces a flame, fire, or spark which may increase the risk of fire or explosion; or • introduces an ignition source into a classified hazardous area.

8.0 Revision History

Rev. No.	Rev. Date	Revision Description	Author	Endorse/Check	Approved. By
0	14.08.2014	Procedure created to reflect corporate wide process	J. Paull	T. Hooper	I. Gilbar
1	1.06.2020	Scheduled review	J. Fullard	J. Paull	K. Ussher

9.0 Appendices

Appendix A: Hot Work Document Flowchart