# Hot Work Procedure

## WNH Q23 - Revision 2.0

Effective from June 2024

# Contents

# 1.0 This Document

## 1.1 Purpose

The purpose of this procedure is to eliminate the risk of impact or injury resulting from any form of work involving high temperatures or any activity that has the potential to create a spark or flame, As Far As Reasonably Practicable (AFARP). Correct use of the procedure will ensure that adequate controls are in place before carrying out any form of hot work.

## 1.2 Scope

This procedure applies on all Woolnorth Renewables (WNR) worksites and shall be used if any activity involves the production of flames, heat and/or sparks. The associated hot work permit (WNH Q23.1) should be utilised for the control of hazards and risks associated with any high-risk hot work (defined herein). Note that the smoking of cigarettes within operational areas is covered in WNH Q27 Workplace Fitness & Wellbeing Procedure. In addition to this procedure, WNR specifically draws attention to the risk controls outlined for machinery and equipment in the Hand & Power Tools Procedure (WNH Q19) and the Personal Protective Equipment Procedure (WNH Q22).

# 2.0 Hot Work

Any work involving flames, or the production of heat or sparks is classified as hot work and includes, oxy-acetylene cutting, arc welding, brazing or soldering, heat gun operation, abrasive blasting, and grinding. Hot work could ignite combustibles (flammable material, gas or vapours), scatter sparks or hot particles, and require time to cool to below the ignition temperature of any potential fuel.

WNR's preference is to perform hot work in designated hot work areas that have a range of controls in place to ensure the risk of unintended burns, fire or inhalation of toxic substances are lowered AFARP. Hot works may also occur outside of such areas; however, they shall be classified as either low or high risk hot work following the definitions outlined below, and managed in accordance with mandatory requirements of each class.

## 2.1 Designated Hot Work Areas

The control building garage/workshop areas of each wind farm are designated hot work areas. No hot work permit is required for hot work in these areas; however, they shall comply with mandatory requirements of low risk hot work (outlined below) as well as being subject to the standard risk assessment processes outlined in the Risk Management Procedure (WNH Q14).

## 2.2 Low Risk Hot Work

Low risk hot work is defined as any hot work that,

- is to be short in duration i.e. approximately 2 minutes,
- is to be conducted within a highly controlled environment e.g. inside a wind turbine, switch yard, WTG hardstand, control building carparks. If the work is to be conducted outdoors (e.g. switchyard, carpark) it shall only be conducted at least 12 meters from any vegetated perimeter areas, and,
- does not involve open-flamed equipment such as an oxy-acetylene torch. An exception to this point exists in the use of triggered-flame systems such as cigarette lighters and handheld gas torches.

Examples of low-risk hot work are,

- using a grinder to remove small areas of paint on the sides of a WTG gearbox for adhesion of new SKF sensors,
- cutting off unwanted lugs or burs of steel in the switchyard using a battery-grinder, and,
- fitting heat shrink insulation around an electrical cable joint using a handheld gas torch.

The mandatory low risk hot work controls that shall be in place during such work are,

- verification that all flammable materials (e.g. paper, fuel, timber) and any sensitive equipment have been removed/protected within immediate work area and the spark-throw and heat zone (i.e. this would probably not be achievable in switch rooms and office areas),
- verification that no toxic substances will be generated during the activity or impacts on air quality within potential confined space work areas,
- extinguishing equipment is immediately available at the work area in case of unintended fire, and,
- a team member will be present for half an hour (or longer if required) after the hot work to confirm that no smoke, flames or residual heat can be identified within the work area.

## 2.3 High Risk Hot Work

High risk hot work is any hot work that does not fit the definition of low-risk work and is to be conducted outside a designated hot work area. Such work will include,

- any hot work being conducted over extended periods of time, and,
- work in un-controlled (unprotected) environments such as roadsides, storage sheds, transmission line easements and server rooms where there are obvious/multiple flammable material risks or sensitive equipment.

Examples of high-risk hot work are,

- welding of main-frame cracks within a WTG nacelle,
- heating a WTG generator bearing using an oxy-acetylene torch,
- any burning on the property for vegetation management,
- steel-mesh preparation for building foundation works, and,
- any hot work within a switch room cable pit (potential confined space).

## 2.4 High Risk Hot Work Controls

All high-risk hot work will be managed under a hot work permit. The permit shall include all potential hazards associated with the task, as well as the control measures, and be completed by a competent person and issued by a Person in Charge (PIC). The minimum hot work controls to be addressed before starting any such work include the following:

a) isolate fire detection systems (VESDA; BEAM MASTER; other);

b) consideration and issue of other permits such as for confined spaces, concealed services and permit to work;

c) spark containment/arresters are in place;

d) screening for welding flash prevention is in place;

e) area is clean and free of combustible materials for a distance of at least 12 metres in all directions including above and below the hot work area and to each side (fuels, vapours, hydrocarbons, aerosols, other), whilst being ware of the potential for bouncing slag when clearing combustibles from the area;

f) contain or manage grinding sparks so that they don't impact adjacent areas, confined spaces or other hazardous areas;

g) drains in area are covered;

h) hazardous bi-products of the work are contained or managed (e.g. lead paint, fumes, or discharge of toxins into the environment);

i) firefighting equipment is available (e.g. hose + pump / extinguisher – fully charged, in date and ready);

j) the area is kept wet as identified or required;

k) for outside work no hot work is permissible during a total fire ban, or when the fire danger rating is very high or above. During the declared fire permit period, environmental conditions will be assessed on the day and if the conditions are not conducive the hot work shall be rescheduled; and

l) where required, a safety observer shall be nominated. This person should be competent and confident in the use of the firefighting equipment and the emergency procedures. Watch period is a minimum 30 minutes after completion of the work and maybe required for a number of hours in specific cases.

## 2.5 Civil & Vegetation Works

At times of very high fire danger, all civil and vegetation work that produce sparks and heat such as the operation of chainsaws, brush cutters, slashers and steel track machines shall only occur if urgently required and after a detailed risk assessment has been completed. Under normal circumstances such work should be suspended or cancelled until the conditions become more suitable.

# 3.0 Definitions

None

# 4.0 Accountabilities

The General Manager of WNR is to ensure that hazards identified in Site Risk registers are managed in accordance with their level of risk and that delegated personnel within the business are aware of their HSE risk management responsibilities, As Far As Reasonably Practicable (AFARP).

All staff within WNR conducting operational activities must ensure AFARP that they understand the requirements of this procedure and that their activities are in compliance with this procedure.

All staff and contract managers are to ensure the operational personnel they are responsible for have access to this procedure, understand the core requirements of this procedure and that they are provided with adequate supervision to minimise the risks of incidents in hazardous environments AFARP.

The HSE Manager for WNR is to ensure AFARP that this procedure reflects industry best practice, meets National and State legislative requirements and Standards and that this document is maintained within the Plan-Do-Check-Act cycles of the businesses HSE system.

# 5.0 References

The following manuals and references are to be used for assisting in managing hazards and controls associated with hot work on WNH wind farms.

- Tasmanian Fire Service website - www.fire.tas.gov.au
- Code of Practice Welding Processes July 2020
- Safe Use of Angle Grinders (Worksafe Victoria)