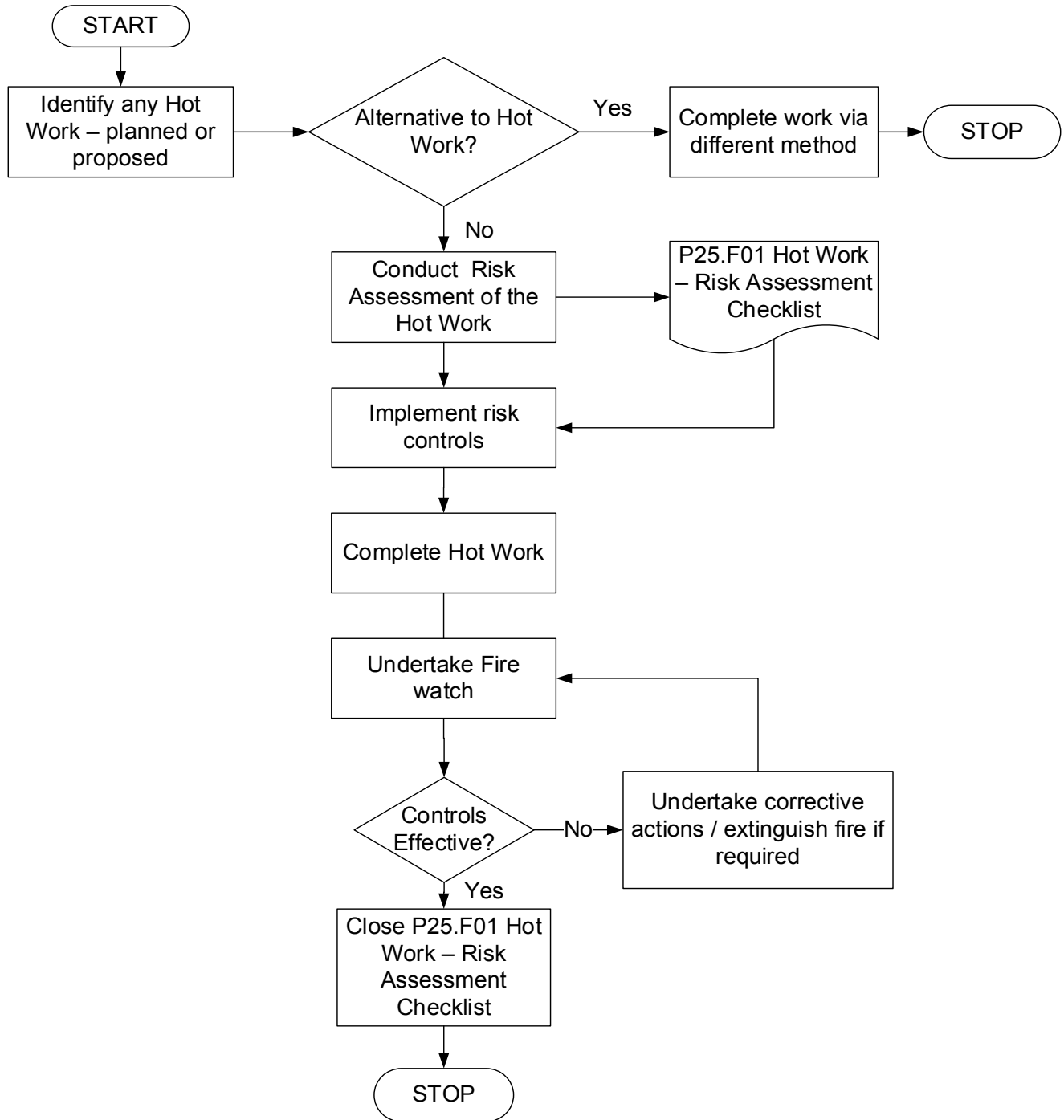


# HOT WORK

## 1.0 SUMMARY / FLOWCHART



**2.0 RESPONSIBILITY**

<b>Organisational Level</b>	<b>Health and Safety Responsibilities</b>
<b>Level 1</b> ( <i>General Manager, Group Directors</i> )	Provide adequate resources to ensure that SCC’s workers have developed, established and maintained safe systems of work for tasks requiring hot work.
	Provide adequate resources to ensure that workers required to undertake hot work have been trained.
	Provide adequate financial resources to ensure that any risk control measures identified through risk assessment processes, including firefighting and fire prevention equipment, are available, inspected, maintained and replaced when required.
<b>Level 2</b> ( <i>Section Manager, Unit Manager / Unit Co-ordinator, Project Manager</i> )	Ensure that safe hot work procedures and safe systems of work are implemented within area/s of control.
	Ensure appropriate risk management control measures are in place and workers have received instructions and training in the activity that involves hot work, before the workers commence such work.
	Ensure that firefighting and fire prevention equipment is inspected, tested and maintained in accordance with relevant legislative and other requirements.
<b>Level 3</b> ( <i>Coordinator within a Unit, Team Leader, Supervisor, Ganger or Leading Hand or Operator</i> )	Ensure that hot work is carried out in accordance with safe systems of work and with legislative and other requirements.
	Ensure the P25.F01 Hot Work – Risk Assessment Checklist is completed and retained.
	Ensure that all hot work procedures / practices are being adhered to by all workers within areas of control.
	Ensure that all workers affected by hot works procedures / practices are adequately trained in the procedures / practices.
	Respond immediately to all identified hazards, substandard conditions, defects, or non-compliance to the hot work procedures/ practices.
	Ensure that any required safety equipment and personal protection equipment complies with the relevant Australian Standard, and is fit for its purpose and available for use and in good working condition.
<b>Level 4</b> ( <i>Team Member, Operator Attendant, Trainee, Apprentice</i> )	Report immediately to their Supervisor any identified hot work related safety hazards, substandard conditions or non-compliance items associated with hot work

	Carry out all hot work in a safe manner in accordance with requirements, procedures and training.
	Check the condition of any safety equipment required for hot work and fire prevention / control before commencing the work. Safety equipment is to be maintained and stored to ensure it is safe to use in accordance with instructions and training.
<b>Level 5 (Volunteer, Contractor, Other)</b>	<p>All contractors engaged to perform hot work must comply with all legislative requirements of the WHS Act, WHS Regulations and relevant Codes of Practice and Australian Standards.</p> <p>Contractors undertaking hot works must:</p> <ul style="list-style-type: none"> <li>• Comply with SCC’s “Hot Works” procedure as minimum requirements when electing to use their own hot works procedures or written safe system of work. SCC’s P25.F01 Hot Work – Risk Assessment Checklist must be complete before work commences and provided a copy to the Project Manager, Contract Manager or Administrator,</li> <li>• Supply their own hot work and / or safety equipment,</li> <li>• Notify SCC’s Project Manager, Contract Manager or Administrator of any additional hot work activities required to be undertaken that have not already been identified and / or assessed.</li> </ul>

### 3.0 PURPOSE & SCOPE

#### 3.1 PURPOSE

3.1.1 The purpose of this procedure is to define the processes to be followed to ensure that all hazards arising from “hot work” are identified, and any associated risks arising from such work, including the risk of injuries to workers and damage to Shoalhaven City Council’s (SCC’s) assets, are assessed and properly controlled. This procedure outlines the circumstances when a P25.F01 Hot Work – Risk Assessment Checklist (RAC) is required and the process and considerations surrounding the permit.

3.1.2 Hot work poses risks associated with fire and explosion, including severe injuries to workers from burns, and financial and operational costs resulting from property damage.

#### 3.2 SCOPE

3.2.1 Hot works processes are varied and include the following:

3.2.1.1 the various forms of welding, for example, Tungsten Inert Gas (TIG) welding, Gas Metal Arc (GMA) welding (Metal

- Inert Gas (MIG) welding and Metal Active Gas (MAG welding), Electric Arc welding.
- 3.2.1.2 Oxy-acetylene welding and cutting.
- 3.2.1.3 Liquefied petroleum gas (LPG) soldering, brazing, or heating.
- 3.2.1.4 Other activities that produce sparks, including grinding, cutting operations and abrasive blasting.
- 3.2.2 This procedure applies when workers undertake hot work in or on a SCC managed or controlled workplace, except in a hot work designated areas i.e. mechanical or welding workshops.

## **4.0 PROCEDURE**

### **4.1 P25.F01 HOT WORK – RISK ASSESSMENT CHECKLIST (RAC) REQUIRED**

- 4.1.1 An P25.F01 Hot Work – Risk Assessment Checklist is required when any activity defined as “hot work” is proposed or planned.
- 4.1.2 Hot work, requiring an RAC, will not commence until an P25.F01 Hot Work – Risk Assessment Checklist is completed
- 4.1.3 The P25.F01 Hot Work – Risk Assessment Checklist documents the following:
  - 4.1.3.1 The persons competent to carry out the hot work
  - 4.1.3.2 The specific conditions under which the work is to be carried out
  - 4.1.3.3 The necessary considerations, control measures and actions eliminate, or at least minimise any potential harm to any person and damage to any SCC controlled property resulting from fire or explosion.
- 4.1.4 The Competent Person and/or the Controller of the workplace or facility, are the people who complete the RAC. The Competent Person and the Controller of the workplace or facility are also responsible for ensuring all control measures and emergency actions are in place, prior to hot works commencing.

### **4.2 PRIOR TO PERFORMING HOT WORK**

- 4.2.1 Prior to undertaking hot works consideration should be given to whether an alternative method, other than hot works can be employed, such as, but not limited to; working outside the building, moving the item to a safer area, a designated welding bay or designated hot works area, hand cutting with a saw rather than with a flame. Consider the following:
  - 4.2.1.1 Is hot work avoidable?
  - 4.2.1.2 Is a safer alternative available?
  - 4.2.1.3 Is the work able to be undertaken outside of a building?

- 4.2.1.4 Is it possible to use hand or electric saws or pipe cutters instead of flame cutting techniques?
- 4.2.1.5 Is it feasible to use a mechanical means of joining metal parts, such as, nuts and bolts, screwed fittings or couplings, instead of welding?
- 4.2.1.6 Is hand filing possible instead of grinding?
- 4.2.1.7 Is threaded pipe a viable alternative to welded pipe?

### 4.3 THE CONTROLLER OF THE WORKPLACE OR FACILITY

- 4.3.1 The Controller of the workplace or facility or the Competent Person is required to visit all sites, within buildings under his control before approving hot work.
- 4.3.2 If there is no alternative to hot work and the area in question is fire safe, the Controller of the workplace or facility or the Competent Person are required to complete the RAC – Hot Work.
- 4.3.3 The Controller of the workplace or facility or Competent Person will visit the proposed hot work site and the surrounding and adjacent areas.
- 4.3.4 Before signing the RAC – Hot Work, the Controller of the workplace or facility or Competent Person will discuss with the Competent Person what the work will involve, and ensure precautions on the permit have been implemented.
- 4.3.5 The Controller of the workplace or facility or Competent Person's duties include enforcing SCC's hot works procedure and managing the activities of all contractors in the immediate area. Before allowing any hot work job, the Controller of the workplace or facility or Competent Person will ask the following questions:
  - 4.3.5.1 Is hot work the only option?
  - 4.3.5.2 Can work be completed some other way?
  - 4.3.5.3 Industry Codes & Practices permitting?
- 4.3.6 The Controller of the workplace or facility or Competent Person will forbid hot work on equipment with a combustible lining.
- 4.3.7 Once the Controller of the workplace or facility or Competent Person has issued the P25.F01 Hot Work – Risk Assessment Checklist the RAC must be displayed in a visible place in the hot works area. The RAC must be TRIM with other work activity documentation.

### 4.4 SAFETY OBSERVER

- 4.4.1 The Safety Observer reports to the Controller of the workplace or facility or Competent Person. The job of the Safety Observer is to prevent fires and be ready to respond if one starts. Specifically, the Safety Observer:
  - 4.4.1.1 Stays near the person performing hot work.

- 4.4.1.2 Closes all fire doors.
- 4.4.1.3 Makes sure the work area remains free of combustible material and any covers are not moved.
- 4.4.1.4 Never leaves the area while hot work is in progress or during breaks (such as coffee or lunch) unless relieved by a qualified replacement.
- 4.4.1.5 Stops the hot work if improper or dangerous conditions develop.
- 4.4.1.6 Is ready to sound the alarm and use an extinguisher or fire hose if a fire starts.
- 4.4.1.7 Monitors the hot work area after the job is finished to ensure the hot works has been totally extinguished.

#### **4.5 PRIOR TO AND DURING HOT WORKS**

- 4.5.1 The area within a radius of 15m, in the case of hazardous areas and 3m, from combustible materials in any other area from the point where
- 4.5.2 the hot works is to be undertaken including the space above and below that area, should be made safe by various techniques, preparation and testing, to ensure that any risk of fire or explosion resulting from the hot works is eliminated.
- 4.5.3 The hot works area should be isolated using appropriate warning barriers, when identified as a control measure through the risk assessment process.
- 4.5.4 Hot works should not be conducted in an area marked as 'NO HOT WORKS' which identifies locations where fire or explosion hazards cannot be removed, i.e. LPG storage, charged gas or fuel lines.
- 4.5.5 Combustible liquids should not be taken into the area covered by the hot works permit, while hot works is carried out.
- 4.5.6 Ensure firefighting equipment is at hand during hot work operations. Firefighting equipment can comprise a combination of tested and operational portable fire extinguishers (suited to potential types of fire), charged fire hoses and sprinklers.
- 4.5.7 Ensure appropriate ventilation systems when working to extract vapours/smoke. Also ensure that vapours and smoke do not enter ventilation systems or affect people at the site or passing by.
- 4.5.8 Where combustible or hazardous material cannot be moved to a safe distance from the point of the hot works, a nominated worker may be required to carry out Fire Watch. The Safety Observer should ensure that no condition or action is taken that will lead to a hazardous situation in or adjacent to the hot works area.
- 4.5.9 If the Safety Observer does identify a hazardous situation, they should immediately notify the person carrying out the hot works, take necessary corrective action i.e. extinguish fire.

- 4.5.10 Isolation of fire detection systems is only to be carried out by qualified and Competent Persons. Approval to isolate will be first obtained by the building manager, for both isolation and reactivation of the system.

#### **4.6 RECORDS**

- 4.6.1 All records generated as a result of the operation of this procedure will be managed in accordance with the requirements documented within P04 Document Control and Safety Records.

#### **5.0 REFERENCES & ASSOCIATED DOCUMENTS**

- 5.1 Work Health and Safety Act 2011
- 5.2 Work Health and Safety Regulation 2017
- 5.3 How to manage work health and safety risks: Code of practice 2011
- 5.4 Work health and safety consultation, cooperation and coordination: Code of practice 2011
- 5.5 Confined Spaces: Code of practice 2011
- 5.6 Welding Processes: Code of practice 2014
- 5.7 AS1674.1-1997 Safety in Welding & Allied Processes – Fire Precautions.
- 5.8 AS1674.2-2007 Safety in Welding & Allied Processes – Electrical.
- 5.9 AS2865 – 2009 Section 6, Safe working in a confined space, definitions.
- 5.10 AS3957-2006 Light transmitting screens and curtains for welding operations.
- 5.11 AS4839-2001 Safe use of portable and mobile, oxy-fuel gas systems for welding, cutting, heating & allied processes.
- 5.12 P04 Document Control and Safety Records
- 5.13 P09 Safety Training
- 5.14 P16 Confined Spaces
- 5.15 P20 Inspection, Testing, Monitoring and Health Surveillance
- 5.16 P25.F01 Hot Work – Risk Assessment Checklist

**APPENDIX 1 DEFINITIONS**

<p><b>Competent Person</b></p>	<p>The Competent Person is in control of the hot work activity at the work site. The Competent Person will possess the following;</p> <ul style="list-style-type: none"> <li>• Experience and or competency in the type of hot works activity they are undertaking.</li> <li>• Must have knowledge of the fire hazards pertaining to the building contents and operations and should be fully trained in hot work property loss prevention supervision.</li> <li>• They must be available and be contacted for all hot work in or on their building.</li> <li>• They must be Competent to be able to stop all hot work, if necessary.</li> </ul>
<p><b>Building</b></p>	<p>Any SCC owned building, such as but not limited to;</p> <ul style="list-style-type: none"> <li>• Administration Buildings, Community Centres, Halls, sheds, Work Depots, treatment plants, or in confined spaces work except for designated welding bays and designated hot works areas.</li> </ul>
<p><b>Combustible Material</b></p>	<p>Material that can maintain combustion with the addition of an external heat source, e.g. timber framing present within wall and ceiling framing, forested areas or dry grass areas.</p>
<p><b>Confined Spaces</b></p>	<p>An enclosed or partially enclosed space that:</p> <ul style="list-style-type: none"> <li>• is not intended or designed primarily to be occupied by a person; and</li> <li>• is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; and</li> <li>• is or is likely to be a risk to WHS from: <ul style="list-style-type: none"> <li>– an atmosphere that does not have a safe oxygen level, or</li> <li>– contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion, or</li> <li>– harmful concentrations of any airborne contaminants, or engulfment.</li> </ul> </li> </ul>
<p><b>Controller of the workplace or facility</b></p>	<p>Is the person having control and or management of the SCC building in which the activity of hot works is proposed. The Controller of the workplace or facility must have knowledge of the fire hazards pertaining to the building contents and operations. They must be available and be contacted for all hot work in or on their building. They must have the authority to be able to stop all hot work, if necessary.</p>
<p><b>Hazardous Area</b></p>	<p>An area in which combustible liquids, vapours or grasses; combustible liquids, dust or fibres; or other combustible or explosive substance may be present.</p>
<p><b>Hot Works</b></p>	<p>Welding, thermal or oxygen cutting, heating, including fire-producing or spark-producing operations that may increase the risk of fire or explosion.</p>



<b>Hot Works Area</b>	An area designated through a specific risk assessment as being capable and suitable for the safe operation of hot works.
<b>Hot Work – Risk Assessment Checklist (RAC)</b>	A Risk Assessment Checklist is a detailed checklist to be completed and issued by a Controller of the workplace or facility or a Competent Person prior to hot works being undertaken, when the hot works activity is being performed in a SCC owned building or in a confined space.