



**Australian Government**

# **PUAFIR513 Develop complex prescribed burn plans**

**Release 2**

# PUAFIR513 Develop complex prescribed burn plans

## Modification History

| Release | TP Version | Comments           |
|---------|------------|--------------------|
| 2       | PUA12 V2.1 | Editorial changes. |
| 1       | PUA12 V2   | New unit.          |

## Unit Descriptor

This unit covers the competency required to develop complex prescribed burn plans for specified burn areas to achieve identified objectives.

A prescribed burn is the controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives.

An approved prescribed burn plan includes a map identifying the area to be burned, and incorporates the specifications and conditions under which the operation is to be conducted.

Complex prescribed burns are characterised by moderate to high risk, a range of fire intensity, medium to large areas, significant potential impact on assets and involve a variety of fuels and terrain.

The burn operation may involve a large number of resources requiring the establishment of a formal management and support structure. It may require several separate ignitions (ground and/or aerial), possibly over several days. It may have a number of high value assets requiring complex protection actions.

Compliance with legislative requirements will be required.

## Application of the Unit

This unit applies to personnel responsible for developing simple and complex burn prescriptions.

## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

PUAFIR303B Suppress wildfire

## **Employability Skills Information**

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

## Elements and Performance Criteria

### ELEMENT

### PERFORMANCE CRITERIA

#### 1. Identify burn area and burn objectives

- 1.1 Areas requiring ***simple*** and ***complex prescribed burn plans*** are identified in accordance with organisational procedures.
- 1.2 ***Burn objectives*** and actions required are developed in accordance with organisational procedures.
- 1.3 ***Target groups*** are identified and consultation process is initiated in accordance with organisational procedures.

#### 2. Prepare plans for prescribed burning

- 2.1 Fuel types and quantities within the burn area are determined.
- 2.2 Fire behaviour and intensity required to meet burn objectives are determined.
- 2.3 Impact of variations in fuel, terrain, weather and season on the required fire behaviour is identified and mitigated.
- 2.4 ***Burn ignition strategies and tactics*** suited to the location that will provide the fire behaviour required to meet objectives, are nominated in accordance with organisational procedures.
- 2.5 Result of consultation undertaken and input is factored into the planning process in accordance with organisational procedures.
- 2.6 Legislative and regulatory requirements are identified and complied with.
- 2.7 ***Hazards***, the ***safety of people*** and ***protection of property, assets*** and the ***environment*** are taken into account through proposed ignition and control strategies and tactics.
- 2.8 Required preparatory hazard mitigation and asset protection works are identified.

- 2.9 Type and quantity of **resources required** are identified.
- 2.10 Conditions for implementation of the strategies and tactics are specified in accordance with organisational procedures.
- 2.11 **Contingencies** are outlined in the prescribed burn plan.
- 3. Gain prescribed burn approval**
- 3.1 Burn plan is submitted for approval in accordance with legislative and organisational requirements.
- 3.2 Modifications and amendments to burn plan are made based on feedback received.
- 3.3 Burn plan approval is gained.

## Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

### Required Skills

- assess characteristics of multiple fuel types
- communicate effectively in writing and orally
- consult and liaise with the community
- implement prescribed burn strategies
- prepare plans
- predict fire behaviour
- read maps
- recommend actions to be taken and communicate this with others
- undertake risk assessment

### Required Knowledge

- effects of fire on vegetation, fauna and accumulated fuel
- effects of fire on areas and places of cultural significance
- fire behaviour in the fuel types being prescribed for
- legislation and regulations relevant to the application of prescribed fire
- organisational procedures
- prescribed burning ignition and suppression strategies including ignition patterns and sequences
- resource capabilities
- risk management
- safe work practices

## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency in this unit**

Assessment must confirm the ability to:

- work effectively as part of a team
- develop timelines for burn planning and conduct
- identify risks and hazards
- develop burn objectives
- develop strategies and tactics to meet burn objectives
- identify actions required to minimise unacceptable impacts of burn preparation and conduct
- identify and consult with target groups
- document prescribed burn plan
- develop tactics for a complex burn involving multiple fuel types
- develop ignition patterns and sequences for proposed conditions.

### **Consistency in performance**

Competency should be demonstrated over time in an operational environment or in an agency-approved simulated workplace environment.

### **Context of and specific resources for assessment**

#### **Context of assessment**

Competency should be assessed in an agency approved simulated and/or workplace environment.

#### **Specific resources for assessment**

Access is required to:

- area requiring the application of fire under prescribed conditions
- existing management plans and data relevant to the area being prescribed.

### **Method of assessment**

In a public safety environment assessment is usually conducted via direct observation in a training environment or in the workplace via subject matter supervision and/or mentoring, which is typically recorded in a competency workbook.

Assessment is completed using appropriately qualified assessors who select the most appropriate method of assessment.

Assessment may occur in an operational environment or in an agency-approved simulated work environment.

Forms of assessment that are typically used include:

- direct observation
- interviewing the candidate
- journals and workplace documentation
- third party reports from supervisors
- written or oral questions

## Range Statement

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

|                                                                |                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Simple prescribed burn</i></b> is characterised by:      | <ul style="list-style-type: none"> <li>• completion in one shift</li> <li>• low intensity</li> <li>• low potential impact on assets</li> <li>• low risk</li> <li>• minimal variation of fuel and terrain</li> <li>• small area</li> </ul>                                                                                                          |
| <b><i>Complex prescribed burn</i></b> is characterised by:     | <ul style="list-style-type: none"> <li>• medium to large areas</li> <li>• moderate to high risk</li> <li>• range of fire intensity</li> <li>• significant potential impact on assets</li> <li>• variety of fuels and terrain</li> </ul>                                                                                                            |
| <b><i>Prescribed burn plans</i></b> may include:               | <ul style="list-style-type: none"> <li>• approval of the plan for the conduct of prescribed burning</li> <li>• map identifying the area to be burned</li> <li>• specifications and conditions under which the operation is to be conducted</li> </ul>                                                                                              |
| <b><i>Burn objectives</i></b> may include:                     | <ul style="list-style-type: none"> <li>• asset protection</li> <li>• biodiversity protection</li> <li>• community protection</li> <li>• habitat management</li> <li>• hazard reduction</li> <li>• management of cultural sites and activities</li> <li>• protection of fire sensitive communities</li> <li>• vegetation management</li> </ul>      |
| <b><i>Target groups</i></b> may include:                       | <ul style="list-style-type: none"> <li>• adjacent land owners and/or managers</li> <li>• community groups with specific interests</li> <li>• commercial operations within the impact zone</li> <li>• government organisations including local, state and federal</li> <li>• other groups and people within the prescribing organisation</li> </ul> |
| <b><i>Burn ignition strategies and tactics</i></b> may include | <ul style="list-style-type: none"> <li>• contingency planning</li> <li>• fire behaviour to be achieved</li> <li>• ignition methods, lighting patterns, sequencing and timing of ignition</li> </ul>                                                                                                                                                |
| <b><i>Hazards</i></b> may include                              | <ul style="list-style-type: none"> <li>• adjoining land use, proximity to urban areas</li> <li>• adverse terrain and/or weather conditions</li> </ul>                                                                                                                                                                                              |

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                             | <ul style="list-style-type: none"> <li>• falling trees and limbs</li> <li>• flammable hazardous materials</li> <li>• flammable vegetation</li> <li>• high fuel loads</li> <li>• powerlines</li> <li>• road traffic</li> </ul>                                                                                                                                                                                                                                            |
| <b><i>Safety of people</i></b> may include                  | <ul style="list-style-type: none"> <li>• people involved with burn implementation</li> <li>• people on areas adjacent to the burn area</li> <li>• people permanently or temporarily in the burn area</li> <li>• smoke vulnerable communities</li> </ul>                                                                                                                                                                                                                  |
| <b><i>Protection of property and assets</i></b> may include | <ul style="list-style-type: none"> <li>• commercial crops or other assets on the burn area</li> <li>• cultural sites, historical buildings, etc</li> <li>• property and assets adjacent to or within the burn area</li> <li>• stock</li> </ul>                                                                                                                                                                                                                           |
| <b><i>Protection of the environment</i></b> may include     | <ul style="list-style-type: none"> <li>• native flora and fauna including rare and endangered species</li> <li>• safe use of chemical fire suppressants</li> <li>• smoke management</li> <li>• soil conservation</li> <li>• water quality</li> </ul>                                                                                                                                                                                                                     |
| <b><i>Resources required</i></b> may include                | <ul style="list-style-type: none"> <li>• aircraft and crews including incendiary operations supervisor and incendiary machine operator for aerial ignition</li> <li>• aircraft ground support</li> <li>• crews and supervisors for ground ignition, control and patrol work</li> <li>• equipment and supplies (fuel, incendiaries)</li> <li>• planning and logistical support</li> <li>• tankers, other ignition and suppression vehicles, equipment and fuel</li> </ul> |
| <b><i>Contingencies</i></b> may include                     | <ul style="list-style-type: none"> <li>• dealing with escapes</li> <li>• period for which the burn will be 'live'</li> <li>• resource requirements</li> <li>• safety considerations (such as escape routes and safety zones)</li> <li>• resource breakdowns</li> <li>• special resources/secondary control lines</li> <li>• wind changes</li> </ul>                                                                                                                      |

## **Unit Sector(s)**

Not applicable.