



Australian Government

PUAFIR511 Conduct complex prescribed burns

Release 1

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Modification History

Release	TP Version	Comments
2	PUA12 V2	New unit
1	PUA00 V8.1	Primary release on TGA

Unit Descriptor

This unit covers the competency required to prepare and conduct complex prescribed burns in accordance with approved burn plans.

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 or regulatory requirements will be required.

Application of the Unit

This unit applies to personnel responsible for preparing, conducting and evaluating simple and complex prescribed burns on public and private land.

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. Prepare to burn

- 1.1 ***Simple*** and ***complex burn operations*** are identified in accordance with organisational procedures, legislative and regulatory requirements.
- 1.2 ***Contingency plan*** is reviewed based on ***local conditions at the time of burn*** and communicated to all personnel.
- 1.3 Permits are obtained in accordance with organisational procedures, legislative and regulatory requirements.
- 1.4 ***Burn notifications*** and plans are issued to ***person/s or organisations*** in accordance with organisational procedures and legislative requirements.
- 1.5 ***Resource requirements*** are identified with reference to burn plan.
- 1.6 Control lines are specified and prepared in accordance with organisational procedures.
- 1.7 ***Assets*** are protected in accordance with organisational procedures.
- 1.8 Required preparatory hazard mitigation and asset protection works programs are carried out in line with the plan.
- 1.9 ***Weather conditions*** are monitored.

2. Conduct burn

- 2.1 Day of burn notifications are issued.
- 2.2 Pre burn checks are conducted.
- 2.3 Resources are gathered and personnel briefed and deployed in accordance with burn plan.
- 2.4 ***Lighting techniques, patterns*** and ***lighting sequence*** are implemented in accordance with plan or organisational procedures.
- 2.5 ***Burning is monitored*** to ensure safety and

operational changes are made as required.

2.6 Contingencies are implemented in accordance with burn plan as required for the duration of the burn.

2.7 Burn records are kept in accordance with organisational procedures.

2.8 Burn operations are *concluded* and *burn security* is implemented in accordance with organisational requirements.

2.9 Crews are debriefed and resources released from the burn.

2.10 Incidents are reported and investigated in accordance with organisational procedures.

3. Conduct post burn activities

3.1 Outcomes of the burn are assessed and reported.

3.2 Variations from burn plan are reported in accordance with organisational procedures.

3.3 Restoration and rehabilitation works are identified and/or carried out in accordance with organisational requirements.

3.4 Prescribed burn activities are recorded in accordance with organisational procedures.

Required Skills and Knowledge

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

Required Skills

- apply fuel sampling methods
- apply ignition patterns and techniques
- conduct briefings and debriefings
- establish control lines for prescribed burns
- interpret a complex prescribed burn plan
- interpret existing and forecast weather conditions
- interpret fire behaviour conditions
- manage teams
- monitor patrol activities
- monitor the burn
- plan for contingencies
- use fire prediction tools

Required Knowledge

- fire prediction tools and their use
- fuel sampling methods
- ignition patterns and techniques
- legislative and organisational policy and procedures for conducting a prescribed burn
- legislative, regulatory and organisational authorisations required for conducting a burn
- procedures for monitoring prescribed burns and securing burn
- resource requirements
- safe work practices
- seasonal restrictions on prescribed burns
- types of prescribed burns

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:

- implement a complex burn plan for a designated area
- conduct an effective operational briefing and debriefing
- conduct an effective burn, utilising the appropriate resources and record actions taken
- conclude activities once the burn is completed

Consistency in performance

Competency should be demonstrated in an operational environment.

Context of and specific resources for assessment

Context of assessment

Evidence collected from undertaking a complex prescribed burn is required.

Specific resources for assessment

Access is required to:

- complex prescribed burn plans
- fire management plans
- lighting equipment
- suppression equipment
- lighting and suppression crews

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

<p>The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. <i>Bold italicised</i> wording in the Performance Criteria is detailed below.</p>	
<p><i>Simple burn</i> may be characterised by:</p>	<ul style="list-style-type: none"> • completed in one shift • involves minimal variation of fuels and terrain • low intensity • low potential impact on assets • low risk • small area
<p><i>Complex burn</i> may be characterised by:</p>	<ul style="list-style-type: none"> • involvement of a variety of fuels and terrain • medium to large areas • moderate to high risk • range of fire intensity • significant potential impact on assets
<p><i>Burn operations</i> must include:</p>	<ul style="list-style-type: none"> • simple burns • complex burns
<p><i>Contingency plan</i> may include:</p>	<ul style="list-style-type: none"> • command structure • dealing with escapes • resource requirements • safety considerations (such as escape routes and safety zones) resource breakdowns • special resources/secondary control lines • wind changes
<p><i>Local conditions at the time of burn</i> may include:</p>	<ul style="list-style-type: none"> • actual or anticipated changes in conditions • weather conditions (temperature, relative humidity, wind, atmospheric stability, drought index, weather forecasts, fire danger index)
<p><i>Burn notifications</i> may include:</p>	<ul style="list-style-type: none"> • verbal notification • written notification
<p><i>Person/s or organisations</i> may include:</p>	<p>People or organisations who:</p> <ul style="list-style-type: none"> • may have adjacent land to which a burn could spread • have an interest in managing the consequences of a burn • have an interest in specific assets • have an interest in the area to be burned • may be concerned by evidence of a burn
<p><i>Resource requirements</i> may</p>	<ul style="list-style-type: none"> • contingency resources

include:	<ul style="list-style-type: none"> • crews for aircraft ground support • crews for control and suppression • crews for ground ignition • equipment and supplies • logistical support • navigators, bombardiers for aerial ignition • tankers • other vehicles
Assets may include:	<ul style="list-style-type: none"> • area of rare or sensitive flora and fauna • buildings • camps or recreational areas • crops • cultural values • historic relics • machinery • other property • plantations • research plots, reference areas • utilities (power and telephone lines, water supply structures, • communications towers)
Weather conditions must include:	<ul style="list-style-type: none"> • relative humidity • temperature • wind
Lighting techniques and patterns may include:	<ul style="list-style-type: none"> • contour lighting • echelon • grid • line • multi-line • spot
Lighting sequence may include:	<ul style="list-style-type: none"> • fuel hazard • slope • time of day • wind direction
Monitoring burn may include:	<ul style="list-style-type: none"> • fire development and spread • flame height • fuel moisture content • observations • predictions • rate of spread • recording

	<ul style="list-style-type: none"> • safety consideration • smoke development • weather observation
<i>Conclusion and burn security activities</i> may include:	<ul style="list-style-type: none"> • mitigating hazards for public safety such as checking trees for falling limbs • mopping-up/blacking out • patrolling burn area • reopening roads
<i>Outcomes of the burn</i> may include:	<ul style="list-style-type: none"> • achievement of burn objectives • escapes • external impacts • levels of scorch • percentage of area burnt
<i>Restoration and rehabilitation works</i> may include:	<ul style="list-style-type: none"> • restoring areas disturbed by machinery • control lines • repairing fences • re-vegetation of damaged areas • vehicle tracks

Unit Sector(s)

Not applicable.