



Australian Government

PUAFIR515 Develop complex prescribed burn plans

Release: 2

PUAFIR515 Develop complex prescribed burn plans

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge 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 at a 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, being in medium to large areas, having significant potential impact on assets and involving 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 and it may include a number of high value assets requiring complex protection actions.

The unit is applicable to personnel responsible for developing complex prescribed burn prescriptions.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR303 Suppress wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify burn area and burn objectives

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Areas requiring complex prescribed burn plans are identified, in accordance with organisational and permit procedures and legislative and regulatory requirements

1.2 Burn objectives are identified and consultation process is undertaken, in accordance with organisational procedures

1.3 Target consultation groups are identified, and consultation process is initiated, in accordance with organisational procedures

1.4 Legislative and regulatory requirements are identified and complied with throughout planning process

2 Prepare prescribed burn plan for a complex burn

2.1 Key features of burn area are identified including variations in terrain, fuel types and quantities, control lines and weather

2.2 Risks from the proposed burn, both on and off site, are assessed and considered in planning process including operational hazards, safety of people, protection of property, assets, environmental and ecological risks

2.3 Results of consultation are factored into the planning process, in accordance with organisational procedures

2.4 Fire behaviour to meet burn objectives and to account for variations in fuel, terrain and weather is determined

2.5 Burn ignition strategies and tactics suited to location that provide required fire behaviour and intensity are determined, in accordance with organisational

procedures

- 2.6** Lighting techniques and patterns for both ground based and/or aerial ignition for specific burn are identified
- 2.7** Strategies for mitigating hazards and risks are identified and preparatory works are planned
- 2.8** Strategies and tactics for controlling prescribed burn are identified
- 2.9** Type and quantity of resources required are identified
- 2.10** Conditions for implementation of burn ignition strategies and tactics are specified, in accordance with organisational procedures
- 2.11** Prescribed burn plan is prepared, in accordance with organisational procedures
- 2.12** Contingencies are outlined in prescribed burn plan

3 Gain prescribed burn plan approval

- 3.1** Prescribed burn plan is submitted for approval, in accordance with legislative and organisational requirements
- 3.2** Modifications and amendments to prescribed burn plan are made, based on feedback received
- 3.3** Prescribed burn plan approval is gained

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

- complex prescribed burn plans must include
- approved plan for conduct of prescribed burning
 - map identifying area to be burned
 - specifications and conditions under which operation is to be conducted

burn objectives must include one or more of the following

- asset, biodiversity and community protection
- habitat management
- hazard reduction
- management of cultural sites and activities
- protection of fire sensitive ecological communities
- vegetation management

target consultation groups must include one or more of the following

- adjacent land owners or managers
- commercial operations within impact zone
- community groups with specific interests
- government organisations including local, state and federal
- other groups and people within the prescribing organisation
- people that may be affected by burn

burn ignition strategies and tactics must include

- contingency planning
- fire behaviour to be achieved
- ignition methods, sequencing and timing of ignition

lighting techniques for ground and aerial ignition must include three or more of the following

- hand held drip torch
- aerial drip torch
- aerial incendiaries
- hand held propelled incendiaries
- vehicle mounted propelled incendiaries
- vehicle mounted incendiaries
- wind and/or water proof matches

lighting patterns must include two or more of the following

- backing fire ignition
- spot or grid ignition
- strip ignition
- flank fire ignition

operational hazards must include two or more of the following

- adjoining land use and proximity to urban areas
- adverse terrain or weather conditions
- crew size
- falling trees and limbs
- hazardous materials
- high fuel loads
- ignition method
- plant
- powerlines
- road traffic
- vegetation type

safety of people must include two or more of the following

- impact of smoke on vulnerable communities near the burn area
- safety of any people permanently or temporarily in burn area
- safety of people involved with burn implementation
- safety of people on areas adjacent to burn area

property and assets must include two or more of the following

- any of the following that are in or near the burn area
 - camps or recreational areas
 - commercial land use such as crops or industry
 - cultural sites or historical buildings
 - other property and assets
 - plantations
 - research plots and reference areas
 - stock
 - urban areas
 - utilities - power and telephone lines, water supply structures and communications towers

environmental and ecological risks must include

- impact of native flora and fauna including rare and endangered species
- impact of smoke
- impact of soil
- impact of use of chemical fire suppressants
- impact on water quality or supply

resources required must include one or more of the following

- aircraft and crews including incendiary operations supervisors and machine operators for aerial ignition
- aircraft ground support
- control line standards
- crews and supervisors for ground ignition, control and patrol work
- equipment and supplies including fuel and incendiaries
- planning and logistical support
- pre-burn work schedule
- tankers, other ignition and suppression vehicles, equipment and fuel

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR513 Develop complex prescribed burn plans.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR515 Develop complex prescribed burn plans

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying legislative, regulatory, organisational and permit requirements
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risks mitigation and safe work practices
- assessing characteristics of multiple fuel types, terrain and weather
- developing a pre-burn work schedule
- developing contingency arrangements
- documenting complex prescribed burn plans including objectives
- gaining complex prescribed burn approval
- identifying actions to minimise impacts of complex prescribed burn preparation
- identifying resources
- identifying, assessing and mitigating operational hazards and risks including to people, property, assets, ecology and environment
- identifying, liaising and consulting with target consultation groups
- interpreting maps of area and identifying key features
- predicting fire behaviour and intensity in burn area
- preparing maps for complex burn operational use
- preparing plans for complex prescribed burns including developing lighting techniques and patterns for ground and/or aerial ignition, tactics involving multiple fuel types, ignition strategies, burn objectives, strategies and tactics to meet objectives and timelines for planning and conduct of burn
- recommending actions and communicating them
- responding to feedback and adjusting plans for approval

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- accumulated fuels
- burn feasibility
- characteristics of complex prescribed burn including medium to large areas, moderate to high risk, range of fire intensity, significant potential impact on assets and variety of fuels and terrain
- complex prescribed burning ignition and suppression strategies including ignition patterns and sequences for ground and aerial
- contingency arrangements
- control line suitability
- effects of fire on people, property, assets, ecology and environment
- fire prediction tools
- fuel sampling techniques
- legislative, regulatory, organisational and permit requirements
- organisational documentation, policies and procedures including pre-burn procedures
- planned burn hazards and risks
- resource capabilities
- smoke modelling
- traffic management
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices
- written and verbal notification requirements

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in operational situations or in simulated operational training situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including

- area requiring application of fire under prescribed conditions
- existing management plans and data relevant to area being prescribed
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

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