



Australian Government

PUAFIR508 Develop and analyse the behaviour and suppression options for a wildfire

Release: 1

PUAFIR508 Develop and analyse the behaviour and suppression options for a wildfire

Modification History

Release 1. 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 provide an analysis of the behaviour and spread of a wildfire and to prepare suppression options that are appropriate for expected fire behaviour.

The unit applies to personnel required to provide fire behaviour and spread predictions for consideration by the incident management team and state control centre.

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

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Analyse factors that can impact a wildfire and

PERFORMANCE CRITERIA

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

1.1 Information on current and future fire behaviour and spread is collected from a range of sources and is

develop predictions		recorded, in accordance with organisational procedures
	1.2	Analysis is undertaken of fuels, fuel assessment, weather analysis and the effects of topography on fire behaviour
	1.3	Relevant site information is sought from data bases or experts, in accordance with organisational procedures
	1.4	Appropriate fire prediction tools and references are utilised in the analysis of fire behaviour and spread
	1.5	Fire behaviour and spread predictions are developed, in accordance with organisational procedures
	1.6	Predicted fire behaviour is validated against actual observations and intelligence as it becomes available
2 Develop and maintain maps and data	2.1	Required map information and data regarding predicted fire spread and behaviour is prepared
	2.2	Quality information is provided within required timeframes for fire control planning
	2.3	Key assumptions and limitations affecting the predictions are identified and reported
	2.4	Fire behaviour and spread predictions are updated as new weather and fire information becomes available
3 Analyse and communicate risks	3.1	Location and timing of potential future impact of the fire is predicted
	3.2	Key risks of fire to human, economic and environmental assets are considered, in accordance with organisational procedures
	3.3	Fire and weather are monitored to assess if and or when fire behaviour is likely to change
	3.4	Identified risks and impacts are communicated to relevant personnel
4 Contribute to the analysis of fire suppression options	4.1	Participate in preparation of options analysis for consideration by the Incident Management Team (IMT)
	4.2	Relevant time frames and fire behaviour thresholds for fire suppression strategies and tactics are considered
	4.3	Predicted changes to or variations in fire behaviour

conditions due to fuel, weather, topography and fire size are reviewed and considered

- 4.4** Advice and analysis are provided to the IMT, in accordance with organisational procedures, to assist in developing strategies including fall back strategies

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.

firefighting strategies must include

- defensive strategies - community and asset protection
- offensive strategies - direct, indirect and parallel attack

firefighting tactics must include

- aerial suppression
- back burning and burning out
- control line construction - hand and machine
- direct application of firefighting media

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR512 Develop and analyse the behaviour and suppression options for a Level 2 wildfire.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR508 Develop and analyse the behaviour and suppression options for a wildfire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

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

- accessing and interpreting weather products including conducting weather analysis, consideration of fuels, using topographical information to predict fire behaviour and the selection fire prediction tools
- analysing and communicating key risks
- analysing factors impacting on wildfire and developing incident predictions
- applying topographical information to predict fire behaviour
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- conducting weather analysis
- considering fuels
- developing and maintaining maps and data information for fire predictions
- preparing and analysing fire suppression options including strategies and tactics consistent with incident objectives
- providing for use to an Incident Management Team (IMT) an accurate analysis and projection of fire spread and fire behaviour indicating probable and possible scenarios and an analysis of a range of appropriate fire suppression options
- selecting and applying fire prediction tools and references

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

- conditions suitable for and limitations of fire suppression strategies and tactics
- effects of topography on fire behaviour
- fire behaviour including fire perimeter, fire size, growth and shape, fire whirls, flame characteristics such as height and depth, heat output and intensity, junction zones, rate of spread, smoke and spotting
- fire considerations and risks

- fire suppression strategies and tactics
- fire weather
- fuel and fuel assessment
- fuel types and fuel assessment techniques
- human, economic and environmental assets
- impact of weather on fire behaviour
- map information and data including
 - fire behaviour estimates
 - maps of fire spread estimated at time intervals as required by the incident management team with separate mapping for probable and possible scenarios
 - narrative regarding limitations, assumptions, prediction uncertainties and other comments to assist in the interpretation of data
- organisational documentation, policies and procedures
- sources of information relating to weather and fire behaviour
- types of fire prediction tools and references
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and categories of risk

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be demonstrated over time in actual or simulated wildfire incidents

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
 - a range of actual or simulated fires
 - a range of sources of information related to fire spread and behaviour
 - organisational templates for fire behaviour prediction
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>