



Australian Government

Assessment Requirements for CPPBPA5001 Assess factors affecting bushfire behaviour

Release: 1

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Modification History

Release 1	This version first released with CPP Property Services Training Package Release 17.0. New unit of competency.
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Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by:

Conducting site assessments for at least three (3) sites with different characteristics and analysing factors on each site for potential bushfire risk, including:

- identifying and assessing the characteristics and factors for the site and adjoining property contributing to bushfire risk which must include:
 - vegetation type
 - fuel load and arrangement, including ground, surface, ladder and elevated fuel
 - topography
 - seasonal climatic conditions
- analysing bushfire risk which must include:
 - landscape driven bushfire behaviour
 - impact of variations in topography and length of fire runs
 - radiant heat flux and flame lengths
 - impact of consequential fires
- documenting and reporting on potential bushfire risk.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- fire and the principles of development, including:
 - fuel
 - ignition
 - oxygen
 - waste products
 - principles for extinguishing fire
 - fire progression from ignition to ash

- fire behaviour models, including reviewing the inputs, outputs, limitations and application
- properties of fire, heat and combustion, including:
 - conduction, convection and radiant heat transfer
 - pyrolysis and combustion
- factors affecting fire behaviour, including:
 - common types of fuel and arrangement in rural and peri-urban environments, including ground fuel, surface fuel, ladder fuel, elevated fuel, vegetation and fuel loading
 - topography and the movement of bushfire
 - weather, including temperature, humidity, precipitation, wind and fire-generated microenvironments
- impact of climate on fire behaviour, including:
 - seasonal variations caused by El Nino and other climatic conditions
 - impact of climate change
 - soil dryness index and drought factors
- consequential fires on building-to-building fire spread from ignition of combustible items in the vicinity
- common sources of ignition of buildings and properties bushfires, including:
 - fire-generated embers
 - radiant heat
 - direct flame contact
- basic bushfire behaviour prediction models, including:
 - vegetation-specific models for grasslands, shrublands, dry eucalypt forests, wet eucalypt forests, pine plantations and spinifex grasslands
 - radiant heat models, including view factor models
 - fire intensity and flame length models
- contribution of other combustible materials on fire growth and spread, including:
 - fences
 - woodpiles
 - boats and vehicles
 - outdoor furniture
 - sheds
 - neighbouring buildings
 - other combustible materials.

Assessment Conditions

Assessors must satisfy the requirements for assessors contained in the Standards for Registered Training Organisations.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting where these skills and knowledge would be performed.

Candidates must have access to:

- sites specified in the performance evidence
- legislation, regulations, standards and codes of practice relevant to bushfire modelling
- stakeholders.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>