



Australian Government

PUAFIR501B Conduct fire investigation and analysis activities

Release 3

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Modification History

Release	TP Version	Comments
2	PUA12 V2	Application of the Unit added Unit revised to reflect current work requirements Method of assessment added
1	PUA00 V8.1	Primary release on TGA

Unit Descriptor

This unit covers the competency required to respond to an incident and to undertake a preliminary fire investigation prior to the arrival of a specialist fire investigator. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

This unit applies to personnel required to conduct a fire investigation at a fire or related incident.

This unit is not intended to replace the role of the specialist fire investigator; the role of the specialist fire investigator is encompassed within the PUA60912 Advanced Diploma of Public Safety (Fire Investigation).

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUALAW001B Protect and preserve incident scene

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. Plan fire/incident investigation and analysis activities

- 1.1 Roles and responsibilities of government and non-government organisations involved at a fire/incident investigation are identified.
- 1.2 Procedures and *protocols for the cooperation and coordination of relevant organisations* involved in the fire/incident investigation are identified, agreed and implemented.
- 1.3 Strategies required to conduct a fire/incident investigation and analysis are identified and implemented in accordance with organisational procedures.
- 1.4 Preliminary and background *sources of information* concerning the context of the fire/incident investigation is prepared.
- 1.5 Relevant legislative requirements that impact on the collection and recording of *evidence* are identified.
- 1.6 Evidence and information gathering process at the incident site is planned in accordance with organisational and legislative requirements, environmental conditions and resource availability.
- 1.7 Required fire investigation equipment and resources for the incident are identified and assembled.

2. Collect, collate and preserve evidence

- 2.1 *Methods and techniques of evidence and information collection* appropriate to the investigation are applied. accordance with legislative requirements
- 2.2 Various types of evidence and information pertinent to the investigation are recorded and/or collected in accordance with organisational and legislative procedures.
- 2.3 Procedures for continuity and *preservation of evidence* are followed in accordance with legislative requirements.
- 2.4 Appropriate *packaging* and identification techniques for the transportation of evidence for the purpose of laboratory testing are followed in accordance with organisational and legislative requirements.

3. Determine origin and cause of fire at incident

- 3.1 Procedures required to determine the origin and *cause of fire* are followed.
- 3.2 *Specialist personnel* are liaised with to support determination of cause of fire.
- 3.3 Assistance is rendered to laboratory personnel and

- specialist organisations as required, in accordance with organisational procedures.
- 3.4 Physical evidence that can lead to the determination of the origin and cause of fire is identified and examined.
- 3.5 Preliminary findings are documented and validated in accordance with organisational procedures.
- 3.6 Origin and cause of fire are determined.
- 3.7 Findings, methodologies, support data and briefing notes are documented in accordance with organisational and legislative procedures.
- 4. Conduct analysis of incident**
- 4.1 Information relating to incident is gathered in accordance with organisational policies and procedures.
- 4.2 Information relating to incident is evaluated in accordance with organisational procedures.
- 5. Record and report information collected**
- 5.1 Information for a fire/incident investigation is recorded in accordance with the Rules of Evidence and legislative requirements.
- 5.2 Information collected for a fire/incident investigation is prepared and documented in a report in accordance with organisational requirements.
- 5.3 Report is submitted to supervisor in accordance with organisational requirements.
- 6. Prepare personnel for proceedings**
- 6.1 Briefings are participated in with counsel as required.
- 6.2 Other personnel involved in the proceedings are briefed as required.
- 6.3 Additional information and/or clarification of fire/incident investigation procedures/findings are provided as required.
- 6.4 ***Protocols for giving of evidence*** at a coronial/civil/criminal proceeding are followed.
- 7. Review and evaluate fire/incident investigation**
- 7.1 Outcomes of proceedings are reviewed to ensure knowledge of investigations, trends and precedents is current.
- 7.2 Changes to organisational policy and procedures arising from rulings and decisions are formulated and reported.
- 7.3 Fire/incident cause determination/documentation/recommendations are forwarded 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

- communicate effectively verbally and in writing
- conduct briefings
- cooperate with other organisations and community groups
- display evidence gathering techniques
- display evidence packaging techniques
- handle dangerous goods and hazardous substances
- record incident and investigation details

Required Knowledge

- collection of physical evidence
- determining point of origin by deductive evidence
- differences between fire conditions
- differing fire behaviour such as flashover, backdraught
- distinguishing between fires that are accidentally, negligently and deliberately or naturally lit
- examination of the fire scene
- factors affecting fire behaviour
- fatality and criminal involvement procedures
- identification of fire scene hazards
- legal implications of evidence collection and legislative requirements
- motives of the fire setter
- security of the scene, scene contamination and preservation
- use of personal protective clothing and equipment

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:

- secure the scene and preserve the evidence
- determine the point of origin and cause of fire
- distinguish between fires that are caused deliberately or accidentally, negligently and naturally lit
- collect evidence in accordance with legislative requirements
- record incident and investigation details in accordance with organisational procedures

Consistency in performance

Competency should be demonstrated over time in a range of actual or simulated workplace environments.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed on-the-job or via simulations or exercises.

Specific resources for assessment

Access is required to:

- relevant fire investigation equipment and resources
- real or simulated test fire sites (forest/rural)
- training building with appropriate fire investigation training rooms
- fire crews and pumpers
- thermal detection equipment
- appropriate protective clothing and equipment
- classrooms equipped with computers and appropriate training aids, text and reference materials
- appropriate role play scripts for the appropriate personnel (police, witnesses, barristers, solicitors, forensic scientist, insurance adjustors and investigators).

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>Protocols for the cooperation and coordination of relevant organisations</i> may include:</p>	<ul style="list-style-type: none"> • advising and cooperating with other agencies • canvassing witnesses • collecting and securing physical evidence • collecting, collating and analysing information • conducting examinations • conducting interviews • making sketches and maps • preparing reports • producing information • taking notes
<p><i>Sources of information</i> may include:</p>	<ul style="list-style-type: none"> • correspondence • databases • incidence mapping • internet • inter-organisational activities • intra-organisational activities • journals
<p><i>Evidence</i> must include:</p>	<ul style="list-style-type: none"> • debris • documents • drawings • electrical appliance/equipment • gas appliance/equipment • manifests • maps • personal notes • physical evidence • plans • sketches • soil
<p>and may also include:</p>	<ul style="list-style-type: none"> • audio tapes • video tapes
<p><i>Methods and techniques of evidence and information collection</i> must include:</p>	<ul style="list-style-type: none"> • advising and cooperating with other agencies • canvassing witnesses • collecting and securing physical evidence • collecting, collating and analysing information • conducting examinations

	<ul style="list-style-type: none"> • conducting interviews • making sketches and maps • preparing reports • producing information • taking notes
<i>Preservation of evidence</i> must include:	<ul style="list-style-type: none"> • maintaining chain of evidence • maintaining log of events • tagging secure encasements
<i>Packaging</i> may include:	<ul style="list-style-type: none"> • glass receptacles • non-leaching bags • non-lined tins • rigid and non-rigid receptacles
<i>Causes of fire</i> must include:	<ul style="list-style-type: none"> • accidental • chemical • deliberate • electrical origin • environmental or natural occurrences • flammable liquids • gas • gas explosion • lightning • matches and lighters • mechanical defect • motor vehicles • smoking • spontaneous combustion
<i>Specialist personnel</i> may include:	<ul style="list-style-type: none"> • arson squad • crime scene police • forensic specialist • insurance investigators • laboratory technicians • lawyers • medical examiners • other relevant authorities
<i>Protocols for giving evidence</i> must include:	<ul style="list-style-type: none"> • court practices • court procedures • pre-court briefings • rules of evidence

Unit Sector(s)

Not applicable.