



**Australian Government**

# **PUAFIR514 Assess and evaluate a facility's fire and incident safety management systems**

**Release: 2**

## **PUAFIR514 Assess and evaluate a facility's fire and incident safety management systems**

### **Modification History**

<b>Release</b>	<b>TP Version</b>	<b>Comments</b>
2	PUA12 V2.1	Editorial changes.
1	PUA12 V2	New unit. Equivalent to PUAFIR508B.

### **Unit Descriptor**

This unit covers the competency required to assess and evaluate a facility's fire and incident safety management systems for dangerous goods and/or hazardous substances. Legislative, regulatory and certification requirements are applicable to this unit.

### **Application of the Unit**

This unit applies to personnel authorised by their agency to undertake an assessment of a facility where dangerous goods and hazardous substances are stored.

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

PUAFIR404B Inspect dangerous goods facilities

### **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
<b>1. Assess hazards of onsite materials</b>	<p>1.1 <i>Identification of hazards of onsite materials</i> is carried out.</p> <p>1.2 Facility risk factors are determined.</p> <p>1.3 Potential incidents are identified.</p> <p>1.4 Factors which may contribute to loss of containment, control of, or fire involving <i>hazardous materials</i> are assessed.</p> <p>1.5 Information about hazardous materials is accessed through a range of sources.</p>
<b>2. Identify, determine and assess the likely consequence of the release on onsite materials (non-fire scenario)</b>	<p>2.1 Range of dangerous goods releases is identified and assessed in accordance with organisational procedures.</p> <p>2.2 <i>Consequences of dangerous goods releases</i> are identified and assessed in accordance with organisational procedures.</p> <p>2.3 Impact on the immediate area, personnel, property and the environment is identified in accordance with organisational procedures.</p> <p>2.4 Likelihood of the events occurring is determined in accordance with organisational procedures.</p> <p>2.5 Resources available to combat the release of onsite materials are identified and assessed.</p>
<b>3. Determine and assess the fire scenario (fire, chemical, gas release) involving hazardous materials</b>	<p>3.1 Range of fire <i>scenarios</i> involving hazardous materials is identified in accordance with organisational procedures.</p> <p>3.2 <i>Consequences of each fire scenario</i> involving hazardous materials are identified and assessed in accordance with organisational procedures.</p> <p>3.3 Impact on the immediate area, personnel, property and the environment in the event of a hazardous</p>

- materials fire is identified in accordance with organisational procedures.
- 3.4 Likelihood of a fire occurring is determined in accordance with organisational procedures.
- 3.5 Resources available for each fire are identified and assessed in accordance with organisational procedures.
- 4. Assess fire and incident and safety management systems and their performance**
- 4.1 *Fire, incident and safety management systems* including prevention, preparedness, response and recovery are identified.
- 4.2 Operation and performance of fire and incident and safety management systems is assessed in accordance with *relevant legislation, standards, codes of practice and performance based criteria*.
- 4.3 Survivability of the systems is evaluated in accordance with organisational procedures.
- 4.4 Fire, incident and safety management system design assumptions and fire organisational operations are assessed.
- 4.5 *Recovery strategies* are identified and assessed.
- 5. Report and recommend action**
- 5.1 Proposed or existing fire, incident and safety management systems are documented.
- 5.2 Evaluation of the fire, incident and safety management systems is recorded.
- 5.3 Recommendations for action to be taken and proposed upgrades to fire, incident and safety management systems are reported, documented and 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**

- inspect premises using risk based approach
- interpret risk related documentation
- prepare reports

### **Required Knowledge**

- consequence analysis
- emergency response plans
- emergency shutdown systems
- fire safety studies
- hazard and operability studies (HAZOP)
- risk analysis

## 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:

- identify hazardous materials
- assess hazardous materials
- identify, determine and assess the consequences of a release (fire and non-fire)
- assess performance of a fire/incident safety and management systems
- write reports and recommendations
- evaluate whether the fire safety management systems within a structure meet regulatory performance requirements in the event of a fire or other emergency

### **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 in a simulated workplace environment.

#### **Specific resources for assessment**

Access is required to:

- facility plans
- documentation
- fire safety study
- suitable facility for inspection

### **Method of assessment**

This unit may be assessed with the following unit/s:

- PUAFIR506B Conduct an assessment of a building's performance based design.

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. <b><i>Bold italicised</i></b> wording in the Performance Criteria is detailed below.</p>	
<p><b><i>Identification of hazards of onsite materials</i></b> must include:</p>	<ul style="list-style-type: none"> <li>• United Nations numbers</li> <li>• proper shipping names</li> <li>• product names or trade names</li> <li>• chemical names and chemical abstract service numbers</li> <li>• dangerous goods class labels</li> <li>• packing groups</li> <li>• emergency information panels</li> <li>• placarding</li> <li>• storage manifests</li> <li>• transport documents</li> </ul>
<p><b><i>Hazardous materials</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• any materials which, without adequate safeguards, may contaminate the environment and/or threaten life or property</li> <li>• dangerous goods, hazardous substances or scheduled poisons, environmental pollutants and listed (prescribed) wastes</li> </ul>
<p><b><i>Information about hazardous materials</i></b> may be sourced from:</p>	<ul style="list-style-type: none"> <li>• Emergency Response Guide Book</li> <li>• HAZCHEM Code</li> <li>• National Fire Protection Association Hazardous Materials Code</li> <li>• European Marking ADR Hazardous Identification Numbers</li> <li>• emergency procedures guides</li> <li>• electronic databases</li> <li>• HAZMAT action guides</li> <li>• safety data sheets</li> </ul>
<p><b><i>Consequences of dangerous goods releases</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• atmospheric contamination</li> <li>• effects on people</li> <li>• effects on property</li> <li>• fauna/flora impact</li> <li>• ground water/watercourse contamination</li> <li>• soil contamination</li> <li>• vapour cloud formation and tracking</li> </ul>
<p><b><i>Scenarios</i></b> must include:</p>	<ul style="list-style-type: none"> <li>• boiling liquid expanding vapour explosion</li> <li>• bund fires</li> <li>• flash fires</li> </ul>



	<ul style="list-style-type: none"> <li>• jet fires</li> <li>• leak into bunded/unbundled areas</li> <li>• percussive unconfined vapour cloud explosion</li> <li>• pool fires</li> <li>• structural failure of storage vessels on part of manufacturing plant</li> <li>• toxic vapour clouds</li> <li>• vapour cloud explosion</li> <li>• vehicle fires</li> </ul>
<p><b><i>Consequences of each fire scenario</i></b> must include:</p>	<ul style="list-style-type: none"> <li>• direct flame impingement</li> <li>• direct impact from debris</li> <li>• effects on people</li> <li>• effects on property</li> <li>• explosive over pressure</li> <li>• heat flux contours</li> <li>• potential for propagation/knock-on effect</li> <li>• secondary incidents</li> <li>• toxic smoke/water/air concentration</li> </ul>
<p><b><i>Fire/incident and safety management systems</i></b> must include:</p>	<ul style="list-style-type: none"> <li>• fire main system</li> <li>• static water and pump sets</li> <li>• fire sprinkler system</li> <li>• cooling water system</li> <li>• fire/flame detection and alarm system</li> <li>• gas/vapour detection and alarm system</li> <li>• communication system</li> <li>• evacuation system</li> <li>• fire suppression system</li> <li>• smoke/ventilation control system</li> <li>• passive fire protection</li> <li>• explosion relief devices</li> <li>• bunding</li> </ul>
<p>and may also include:</p>	<ul style="list-style-type: none"> <li>• Australian and New Zealand standards and codes</li> <li>• facility emergency procedures</li> <li>• facility fire/incident response teams material handling systems</li> <li>• facility mutual aid agreements</li> <li>• facility work practices</li> </ul>
<p><b><i>Relevant legislation, standards, codes of practice and performance based criteria</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• Australian and New Zealand standards and codes</li> <li>• British/European union standard</li> <li>• company/owner requirements</li> <li>• factory mutual system – loss prevention data</li> </ul>

	<ul style="list-style-type: none"> <li>• industry association specification</li> <li>• manufacturer specification</li> <li>• NFPA hazardous materials code</li> <li>• system designer specification</li> </ul>
<p><i>Recovery strategies</i> may include:</p>	<ul style="list-style-type: none"> <li>• commercial mutual aid agreements</li> <li>• contaminated fire water containment</li> <li>• facility restoration</li> <li>• fire agency clean-up</li> <li>• fire organisational resources working with government and non-government organisations</li> <li>• hazardous waste disposal</li> </ul>

## Unit Sector(s)

Not applicable.