



Australian Government

PMC557094 Investigate refractory failures

Release: 1

PMC557094 Investigate refractory failures

Modification History

Release 1. Supersedes and is equivalent to PMC557094A Investigate refractory failures

Application

This unit of competency covers the skills and knowledge required to investigate refractory failures, degradation and deterioration in order to recommend appropriate action.

This unit of competency applies to operators who are required to negotiate agreed requirements for the investigation; determine, collate and analyse relevant data to identify cause/s of deterioration or failure; and make recommendations to improve refractory life.

This unit of competency applies to senior technicians or those in similar roles who are required to analyse and synthesise advanced theoretical and technical knowledge and apply independent judgement to high-level technical issues and complex problems. The individual may work in liaison with other refractory specialists or they may be the sole refractory specialist for this job or in their organisation.

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

Pre-requisite Unit

Nil

Competency Field

Technical

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

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

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|---|---|-----|--|
| 1 | Confirm purpose of investigation | 1.1 | Liaise with relevant stakeholders |
| | | 1.2 | Confirm the purpose of the investigation |

- 1.3 Draft or clarify the investigation brief
 - 1.4 Identify discrepancies or conflicts in requirements
 - 1.5 Negotiate a consistent set of requirements for the investigation
- 2 **Collect appropriate data**
 - 2.1 Determine information and data requirements for investigation
 - 2.2 Identify health, safety and environmental (HSE) risks from data collection
 - 2.3 Obtain necessary authorisations to collect required data
 - 2.4 Ensure sampling/data collection meets required standard
 - 2.5 Evaluate data for completeness and identify discrepancies and aberrations
 - 2.6 Collate valid data as appropriate
- 3 **Analyse data**
 - 3.1 Identify deterioration/failure modes
 - 3.2 Determine causes of deterioration/failure
 - 3.3 Identify refractory issues leading to excessive deterioration or failure
 - 3.4 Identify process issues leading to excessive deterioration or failure
 - 3.5 Identify other issues leading to excessive deterioration or failure
- 4 **Make recommendations**
 - 4.1 Draft possible recommendations to improve refractory life
 - 4.2 Discuss causes of failure and recommendations with relevant stakeholders if appropriate
 - 4.3 Ensure information obtained meets the agreed purpose of the investigation and take appropriate action

- 4.4 Determine required format for reporting of investigation, causes and recommendations
- 4.5 Report as required to required people/organisations

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- HSE legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

HSE and other risks Identification of HSE and other risks includes consideration of:

- health and safety risks
- sustainability risks
- regulatory risks
- business risks.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>