



Australian Government

MEM234026 Develop and coordinate engineering-related contingency plans

Release: 1

MEM234026 Develop and coordinate engineering-related contingency plans

Modification History

Release 1. Supersedes and is equivalent to MEM234026A Develop and coordinate engineering-related contingency plans.

Application

This unit of competency defines the skills and knowledge required to develop and coordinate contingency plans for engineering projects or operations across all forms of manufacturing and engineering that provide for recovery from a major incident or non-conformance.

Activities covered include systematic analysis of the engineering activity to identify major contingencies, developing appropriate responses and coordinating the implementation of contingency plans into operations. It embraces personal and electronic communication, self-directed and group activities, business planning, employee briefing and training, project or operations planning and scheduling, and an understanding of the technology, skills, techniques and quality requirements of the project or operations.

This unit does not cover the planning required to contain or remediate an emergency non-conformance such as a fire or explosion. Relevant emergency management skills from other Training Packages should be accessed for these skills.

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

Pre-requisite Unit

Nil

Competency Field

Engineering science

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish contingency plan task	1.1 Identify and review existing technologies, processes, standards and procedures that may impact on the task 1.2 Clarify contingency plan objectives and scope with client 1.3 Prepare task schedules and requirements for development of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	contingency plans 1.4 Establish contingency planning team, if required, and assign responsibilities within the team
2. Conduct impact assessment	2.1 Prepare comprehensive list of potential incidents 2.2 Rate each potential incident for impact severity level 2.3 Identify which incidents will be included in plan
3. Develop contingency plan	3.1 Formulate an action plan to deal with each significant risk 3.2 Ensure work health and safety (WHS) requirements, codes of practice, regulations, standards and other regulatory requirements and organisational procedures are included 3.3 Determine resources required to support plans in line with their scope 3.4 Assign responsibility for each planned action to most appropriate personnel 3.5 Determine costs associated with planned responses 3.6 Determine trigger points for planned responses 3.7 Review plan proposals and costs with client and stakeholders to obtain sign-off, and adjust plan based on feedback
4. Implement and maintain the plan	4.1 Finalise planning, ensuring preparation of all required documentation, drawings, specifications and instructions 4.2 Communicate the plan with all personnel who have a role in its implementation 4.3 Generate standard procedures to ensure plan is maintained and updated following any change in the project or operations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills 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.

Major incidents or non-conformances includes one or more of the following:	• power, fuel energy failure or shortage • breakdown of critical plant or equipment • loss of key personnel • material supply shortages • safety issues • product liability issues • substantial material price increase.
Action plans include the use of one or more of the following:	• substitute materials and components • alternate processing • alternate approved supply sources • rationing of materials in short supply • external sources of labour • expert technical sources.
WHS requirements, codes of practice, regulations, standards and other regulatory requirements and organisational procedures include:	• WHS acts, regulations and relevant standards • industry codes of practice • risk assessments • registration requirements • safe work practices • state and territory regulatory requirements.
Appropriate modelling and analysis software includes one or more of the following:	• project tracking • financial modelling, analysis and tracking • process modelling and analysis • engineering simulation and modelling • manufacturing operation simulation.
Existing technologies, processes, standards and procedures includes one or more of the following:	• standard operating procedures (SOPs), including maintenance procedures • records of operations, including tenders, contracts, schedules, personnel, resource allocations and financial management procedures • documentation and records of current safe work method statements (SWMS), safety data sheets (SDS), work permits, standards and codes of practice.
Legislative requirements include one or more of the following:	• industrial law and awards • consumer protection law • restrictive trade practice • environmental protection • workers compensation

	• equal opportunity and anti-discrimination.
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Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM234026A Develop and coordinate engineering-related contingency plans.

Links

Companion Volume Implementation Guides are available on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM234026 Develop and coordinate engineering-related contingency plans

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- identifying and establishing contingency risks and significance including relevant engineering, production and financial calculations and analysis for the project or operation
- establishing resources required including labour, materials, and equipment within budgets and procedures
- evaluating solutions for feasibility against engineering design or specification criteria including relevant engineering calculations and analysis
- using and validating performance analysis, modelling and simulation software for contingency-related analysis
- establishing support team and responsibilities on at least two occasions
- overcoming constraints to achievement of schedules and budgets as contained in contingency plan on at least two occasions
- communicating, negotiating and reviewing with stakeholders and client throughout process to obtain agreement on proposal and sign-off on plan
- generating standard procedures to ensure plan is maintained and updated.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- context of operations or project including competitive pressures or markets, customer-supplier relationships, regulatory and industrial environment, resourcing and labour issues
- major incidents or non-conformances
- engineering-related modelling and simulation software including underpinning program and software validation techniques
- action plan resources
- budget and control measures for project or operations management from the financial business plan

- physical resources for project or operations
- human resources and requirements for engineering-related projects
- recording and implementation requirements for engineering projects or operations including schedules, budgets, personnel and resource allocations, and standard operating and maintenance procedures
- tendering and contracts requirements and processes including agreement on engineering design and technical specification, negotiations and optimisations, provisions for variations, delays and penalties
- requirements for, and functions of, technical documentation, graphics and specifications, and records of meetings, communications, negotiations, decisions and agreements with stakeholders
- systems thinking, contingency and constraint management
- typical management accounting processes which can relate to an engineering project or operation including:
 - cash flow and liquidity
 - assets and liabilities
 - costing and break-even analysis
 - financial record keeping procedures for expenditures
- typical legal requirements for engineering-related projects or operations
- work health and safety (WHS) requirements, codes of practice, regulations, standards, regulatory requirements for project or operations, current safe work method statements (SWMS), safety data sheets (SDS) and work permits
- work organisation and management theory
- conflict resolution, problem-solving and decision-making.

Assessment Conditions

- Assessors must:
 - have vocational competency in developing and coordinating engineering-related contingency plans at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015 or its replacement* and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.

- 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.
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