



Australian Government

PMBPREP303 Set up equipment for continuous operation

Release: 1

PMBPREP303 Set up equipment for continuous operation

Modification History

Release 1. Supersedes and is equivalent to PMBPREP303C Set up equipment for continuous operation

Application

This unit of competency covers the skills and knowledge required to set up equipment for and trial a continuous production run. It applies to standard production processes and processes that are essentially continuous in nature.

This unit of competency applies to experienced operators and those in similar roles who are required to interpret specifications in order to set up equipment and components for efficient workflow, produce first-off sample and make adjustments to the process and procedures, as appropriate, and inform operators about correct procedures for the run.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members, team leader and supervisor, as appropriate.

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

Pre-requisite Unit

Nil

Competency Field

Preparation

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 Identify production requirements | 1.1 Read specifications and standard operating procedures (SOPs) for production run and equipment |
| | 1.2 Identify materials required |
| | 1.3 Note production control requirements for production and |

- warm up time, pressure(s), speed(s), temperature(s) and product specifications
- 1.4 Note key stages in the process for quality checks
 - 1.5 Identify equipment and components required
 - 1.6 Check assembly requirements for items of production and downstream equipment or specialised componentry to ensure efficient work flow will occur
- 2 **Set up equipment**
- 2.1 Check work area to ensure adequate space for the process
 - 2.2 Place equipment and components in required configuration
 - 2.3 Install guards, warning devices and cut-offs as required
 - 2.4 Check all connecting components and services for integrity and effectiveness
 - 2.5 Check dies/moulds/jigs as required for suitability for production requirements
 - 2.6 Place SOPs and quality procedures in appropriate work stations
 - 2.7 Check work area for operator ergonomic efficiency, access and egress requirements
- 3 **Explain process to operators when required**
- 3.1 Explain particular requirements for machine adjustments, materials characteristics, quality specifications and key production stages to the operator
 - 3.2 Explain standard operating procedures and work health and safety (WHS) issues.
 - 3.3 Identify and explain appropriate contingency strategies for process faults, quality, WHS issues, materials supply or quality machine malfunctions
 - 3.4 Encourage operators to ask questions and clarify procedures

4	Produce first-off production sample(s)	4.1	Start process following SOPs
		4.2	Observe product quality through process and compare to standards
		4.3	Compare machine setting ranges to documented requirements
		4.4	Use observations of the process outcomes to fine tune the settings and other production variables
		4.5	Check final product for the required standards
		4.6	Compare SOPs with actual production run and note variances
5	Fine tune the process	5.1	Use information collected during trial to modify workplace documentation, including SOPs, machine settings and process instructions
		5.2	Obtain appropriate advice and permission where variations are outside of quality or specification range
		5.3	Advise operators of variations to process and document as required

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

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling 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.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- emergency procedures
- work instructions
- SOPs
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment Tools and equipment include one or more of:

- hand carts and trolleys
- hoists/lifting equipment not requiring any special permits or licences
- basic hand tools required for opening of material packaging
- material loading equipment used for loading of raw materials.

Additional tools and equipment will be selected as required from:

- relevant personal protective equipment (PPE).

Hazards Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- heat, smoke, dust, vapours or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Non-routine problems

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- variations in materials
- faulty components
- machine malfunction
- variation in product
- contamination of materials
- processing problems.

Operational knowledge includes one or more of:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPREP303C Set up equipment for continuous operation

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>

Assessment Requirements for PMBPREP303 Set up equipment for continuous operation

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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 demonstrate the ability to:

- read and interpret procedures, job specifications, material labels and safety data sheets (SDS)
- set up tools, equipment and material in a configuration that meets specifications and enables efficient workflow
- provide and explain standard operating procedures (SOPs) and quality procedures to operators
- start up equipment and make adjustments to bring process on line
- trial run the process to produce a sample product
- monitor the trial run process outcomes, settings, product quality and procedures to identify conformance and/or non-conformance to specifications
- make adjustments to equipment operation to rectify variations in equipment operation or product quality and to fine tune process and/or procedures
- safely shut down equipment in normal and abnormal circumstances
- identify hazards and apply relevant hazard controls
- distinguish between causes of problems/alarm/fault indications, such as:
 - operational problems
 - instrument failure/malfunction
 - electrical failure/malfunction
 - mechanical failure/malfunction
 - wrong readings
 - equipment design deficiencies
 - product parameters (temperature, flows, pressure and levels)
- resolve non-routine problems
- communicate effectively with team/work group and supervisors
- complete workplace records
- do basic arithmetical manipulations, including additions, subtractions, divisions, fractions and percentages.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job sufficient to fulfil their job role, including knowledge of:

- products, materials and material characteristics
- quality requirements at each production stage
- function and operating principles of equipment, machine components and ancillary equipment
- impact of machine operating parameters on product quality and production output
- factors which may affect product quality or production output and appropriate remedies
- impact of mechanical, hydraulic, pneumatic and electrical/electronic principles of the production process
- routine and non-routine problems that may arise, the range of possible causes and appropriate actions
- organisation procedures relevant to the work environment/job role
- hierarchy of control
- hazards that may arise in the job/work environment and:
 - their possible causes
 - potential consequences
 - appropriate risk controls

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- In all plants it may be appropriate to assess this unit concurrently with units such as:
 - teamwork
 - communication.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operation of an operating plant
 - will typically include a supervisor/third-party report or other evidence, focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of an appropriate industrial item of equipment requiring demonstration of operation, start and stop procedures and responding to problems
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.

- Assessment should 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. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from demonstration of skills and one or more of:
 - walk-throughs
 - pilot plant operation
 - industry-based case studies/scenarios
 - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews.
- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition the assessor or anyone acting in subject matter expert role in assessment shall demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they shall assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
 - relevant VET or other qualification/Statement of Attainment
 - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
 - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
 - being currently employed undertaking the type of work being assessed
 - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
 - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
 - conducting on the job training/assessments of the type of work being assessed

- being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work.

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