



Australian Government

Department of Education, Employment and Workplace Relations

PMBPREP303C Set up equipment for continuous operation

Revision Number: 1

PMBPREP303C Set up equipment for continuous operation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers setting up equipment for a continuous production run. It applies to processes which are essentially continuous in nature, and standard production processes.

Application of the Unit

Application of this unit

This competency applies to advanced operators who set up equipment for continuous operation. The key factors are production requirements and setting up equipment to match requirements. This competency is typically performed by experienced operators working either independently or as part of a work team.

It includes:

- identifying production requirements and key stages of the process
- setting up equipment and components safely, accurately and in a way that allows production to flow and workers to move safely
- explaining processes to the operator if required
- producing a one-off sample
- observing process outcomes and using them to fine tune the process
- identifying and planning own work requirements from production requests
- identifying and minimising any hazards connected with materials and process from materials safety data sheets, labels and workplace procedures
- checking settings and adjustments of equipment
- checking materials for conformity to job requirements
- correcting materials, equipment or process variations and making appropriate adjustments
- discarding non-conforming products ensuring discarded materials are re-used where possible and waste and scrap is disposed of in accordance with workplace instructions
- solving routine and non-routine equipment and process problems, seeking guidance where necessary or appropriate
- completing logs and reports.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
1. Identify production requirements.	1.1 Read specifications and standard operating procedures 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 standard operating procedures 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 any particular OHS issues are identified. 3.3 Identify and explain appropriate contingency strategies for process faults, quality, OHS issues, materials supply or quality machine malfunctions. 3.4 Encourage operators to ask questions and clarify

ELEMENT	PERFORMANCE CRITERIA
ELEMENT	Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
	procedures.
4. Produce first-off production sample(s).	4.1 Start process following standard operating procedures. 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 standard operating procedures with actual production run and note variances.
5. Fine tune the process.	5.1 Use information collected during trial to modify workplace documentation, including standard operating procedures, 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.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Application of knowledge of the materials, equipment and process sufficient to recognise material and equipment conditions which may lead to out of specification production. Knowledge of organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. Knowledge as a basis for solving processing and material problems including:

- 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 speed, temperature, pressure, time during cycles on product quality and production output
- the hierarchy of control, including engineering controls
- impact of variations in raw materials and equipment operation in relation to final product
- changes to materials at various stages of production
- waste management and importance of non-conforming materials
- identify impact of mechanical, hydraulic, pneumatic and electrical/electronic principles of the production process
- distinguish particular requirements of products, materials, equipment and production process
- identify likely faults and remedies
- recognise focus of operation of work systems and equipment
- assess production workflow and the relationships with equipment, materials and product storage areas and workplace rosters and order systems
- identify and correctly use equipment, processes and procedures
- plan own work, including predicting consequences and identifying improvements
- interpret from production requests the correct selection and use of equipment, materials, processes and procedures
- maintain output and product quality using appropriate instruments, controls, test information and readings
- make adjustments to equipment operation to rectify variations in equipment operation or product quality
- start up equipment and make appropriate adjustments to bring process on line
- take samples when required and identify product out of specification
- safely shut down equipment in normal or abnormal circumstances
- identify factors which may affect product quality or production output and appropriate remedies
- identify hazards of the materials and process
- implement appropriate procedures for hazard control
- safely handle products and materials, read relevant safety information and apply safety precautions appropriate to the task.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets and material labels as provided to operators.

Writing is required to the level of completing workplace forms.

Numeracy is also required, eg to determine quantities required for a run.

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.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- identify equipment and components by name and operating principles and function, and to locate, interpret and apply relevant information
- maintain workplace records, identify and safely handle products and materials applying safety precautions appropriate to the task
- identify critical materials properties and process characteristics in relation to the process requirements and the end product
- plan own work process within workplace procedures and explain the reasons for the steps in the process
- take appropriate action to observe equipment, materials and products for out of specification results, make adjustments and identify problems to be reported.

Consistent performance should be demonstrated. For example, look to see that:

- production quality and output standards are met consistently
- problems are anticipated from process observations
- problems are efficiently resolved
- the process runs consistently and smoothly.

Assessment method and context

Assessment will occur using industrial equipment and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- on a processing plant, allowing for operation under all normal and a range of abnormal conditions
- in a situation allowing for the generation of evidence of the ability to respond to problems
 - by using a suitable simulation and/or a range of case studies/scenarios
 - through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required. Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to experienced operators working either independently or as part of a work team.

Procedures

All operations are performed in accordance with procedures.

Procedures means all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- 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
- relevant personal protective equipment.

Hazards

Typical hazards include:

- inadequate use of guards and warning signs
- manual handling hazards
- hazardous materials
- equipment operations.

Problems

'Anticipate and solve problems' means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/a solution recorded in the procedures.

Typical process and product problems may include:

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

Variables

Key variables to be monitored include:

- variations in the timing of machine cycles
- variations in the sequence of product availability
- variations in the quality of the raw materials
- product integrity and general conformance to specification/sample.
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Unit Sector(s)

Not applicable.