



Australian Government

Department of Education, Employment and Workplace Relations

MCMT220A Apply quick changeover procedures

Release: 1

Modification History

Not Available

INTRODUCTION

Unit descriptor This unit covers the knowledge and skills needed to do quick changeovers.

Competency field MCM Tools

Application of the competency In a typical scenario, an organisation is pursuing quick changeover as one of its competitive manufacturing tools. This unit covers the carrying out of these quick changeovers and also recommending improvements within the scope and authority of the person's job.

Particular technical skills may also be required in some manufacturing sectors and for some jobs. These will be contained in the relevant industry Training Package.

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. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Prepare for changeover

Determine when changeover will be required
Obtain all required tools/parts/materials for changeover
Organise process, and tools/parts/materials ready for changeover
Liaise with relevant people for quick changeover

Make quick changeover

Plan changeover according to quick changeover principles
Complete changeover according to procedures
Check output meets specification
Debrief with all relevant stakeholders
Note any steps which cause a problem
Recommend changes to problematic steps

Improve occupational health and safety (OHS)	Identify hazards in all steps/actions
	Determine risks from each hazard
	Identify actions which may be performed in a more ergonomic manner
	Recommend changes to improve OHS

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. Bold italicised wording in the Performance Criteria is detailed below. 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.

Changeover Changeover may refer to an exchange of dies/tools (traditional), or a change between batches, or between campaigns. It may be any quantum equipment/process change to produce a different product.

Changeover is sometimes referred to as SMED which is a more extreme form where SMED is an abbreviation for Single Minute Exchange of Die; literally, changing a die on a forming or stamping machine in a minute or less; broadly, the ability to perform any setup activity in a minute or less of machine or process downtime; the key to doing this is frequently the capability to convert internal setup time to external setup time; variations on SMED include:

- Single-digit setup: performing a setup activity in a single-digit number of minutes, i.e. fewer than ten.
- OTED: One Touch Exchange of Die; literally, changing a die with one physical motion such as pushing a button; broadly, an extremely simple procedure for performing a setup activity.

Setup time - work required to change over a machine or process from one item or operation to the next item or operation ; can be divided into two types:

- internal setup work that can be done only when the machine or process is not actively engaged in production; OR
- external setup work that can be done concurrently with the machine or process performing production duties.

While the term die is the traditional term, competitive manufacturers who require changeover, but where dies are not used or are less significant, have applied this to a range of other changeovers.

This unit may not be applicable to a totally continuous operation producing only the one product, or simultaneous range of products. This is not applicable to a maintenance/ PVI shutdown as experienced by the continuous process manufacturers. However, where there is continuous manufacturing on a campaign basis, it may be applied to the changeover between campaigns or similar changeovers.

Procedures Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.

For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (e.g. Good Manufacturing Practice (GMP), Responsible Care) and government regulations.

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 requirements

The person will effectively and routinely carry out quick changeovers, in liaison with other relevant personnel, and will make recommendations for improving the changeover.

Specific evidence requirements

What critical aspects of evidence are required to demonstrate competency in this unit?

Evidence of routine positive participation in quick changeover.

In what context should assessment occur?

Assessment will need to occur in an organisation using quick changeover or a suitable simulation, for example, in a workshop.

Are there any other units which could or should be assessed with this unit or which relate directly to this unit?

This unit may be assessed concurrently with relevant technical process units.

This unit is related to:

- MCMT620A Develop quick changeover procedures which covers the manager/design area for quick changeover.

What method of assessment should apply?

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the elements, performance criteria, skills and knowledge. A holistic approach should be taken to the assessment.

Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.

The assessee will have access to all techniques, procedures, information, resources and aids which would normally be

available in the workplace.

The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.

What evidence is required for demonstration of consistent performance?

Evidence should be available of routinely participating in quick changeovers.

What skills and knowledge are needed to achieve the performance criteria?

Skills

- ability to determine/predict when a changeover will occur
- communication
- teamwork
- appropriate tools/process skills for setup.

Knowledge

- principles of quick changeover
- relevant procedures
- purposes/requirements of changeover
- methods of recommending changes
- quality requirements for products
- minimisation of changeover scrap.

What are the specific resource requirements for this unit?

Access to an organisation using quick changeovers.