



Australian Government

Department of Education, Employment and Workplace Relations

FDFPPL4005A Establish process capability

Revision Number: 2

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Modification History

November 2011: inclusion of correct prerequisite.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to study process data to determine process capability using statistical process control techniques.
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Application of the Unit

Application of the unit	This unit applies to people responsible for establishing control charts and related sampling plans.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2015A	Apply principles of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>
	FDFTEC4007A	Describe and analyse data using mathematical principles

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to conduct a capability study	1.1. The scope and purpose of the process is identified 1.2. A representative data sample is determined 1.3. Data collection techniques are selected 1.4. Data is collected to meet sampling requirements
2. Analyse data to determine process capability	2.1. Appropriate statistical analysis techniques are selected and applied 2.2. Process stability and extent of variation are identified 2.3. The target mean for the process is identified 2.4. Process control parameters are calculated 2.5. Related data sampling requirements are specified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- establish process scope, boundaries and related information on process purpose, such as documentation, including product or process specifications where available
- apply sampling techniques to determine nature and extent of data collection to provide a reliable indication of process performance
- select and apply data collection methods (where data collection is automated, this may involve use of software and where data collection is to be carried out by operators, it involves communicating requirements and designing appropriate formats for recording data)
- confirm that data collected is complete and complies with sampling requirements
- identify characteristics of a normal distribution
- apply appropriate statistical techniques, including standard deviation to analyse data, and techniques to distinguish common and special causes of variation
- establish process capability, including establishing upper and lower limits and instructions for identifying and responding to trends
- develop a related data sampling plan, including advice on sampling regimes following corrective action
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- data collection requirements and techniques for collection of actual (quantitative) and variable data
- techniques to determine and validate a sampling plan capable of providing reliable information representative of the total population
- appropriate formats for presenting sampling plan requirements and related communication systems
- workplace conventions/formats for presenting and monitoring process capability information, such as control chart including a target mean, upper and lower limits and advice on how to interpret and confirm trends, and upper and lower warning limits where required
- process knowledge to identify possible causes of special variation
- the difference between a stable process and a capable process and action required to improve process performance in each case

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

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

Evidence of ability to:

- determine scope of and purpose of study
- establish data collection parameters
- select data collection technique
- collect and analyse data
- determine process capability
- complete workplace records as required
- apply safe work practices and identify occupational health and safety (OHS) hazards and controls.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- workplace processes and procedures
- workplace documentation, including process specifications/purpose, sampling plan and control chart formats, and related data collection methods, such as log sheets
- data collection and analysis software and systems as appropriate
- communication systems.

Method of assessment

This unit should be assessed together with core units and other units of competency relevant to the function or work role.

Guidance information for assessment

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

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. Bold italicised wording, if used in the performance criteria, is detailed below. 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) may also be included.

Data collection

Data collection is specified and may be collected by others

Data analysis

Data analysis typically involves the use of statistical analysis software

Unit Sector(s)

Unit sector

People management/planning/logistics

Competency field

Competency field

Co-requisite units

Co-requisite units		