



Australian Government

FBPTEC5002 Manage utilities and energy for a production process

Release: 1

FBPTEC5002 Manage utilities and energy for a production process

Modification History

Release	Comments
Release 1	This version released with the FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

Application

This unit of competency describes the skills and knowledge required to assess utility requirements, identify suppliers, and monitor, conserve and control the cost of utility and energy supply for a production process.

The unit applies to individuals who manage utilities and energy for a production process, but who may not have the authority to make final decisions on supply. Those working in this role would analyse information and exercise judgement to complete a range of advanced, skilled activities in recommending improvements and reducing costs associated with energy efficiencies.

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

Pre-requisite Unit

Nil

Unit Sector

Technical (TEC)

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. Assess utility and energy requirements	1.1 Estimate energy and utility requirements for a given production facility 1.2 Account for historical patterns of use when making estimates and forecasting production volumes

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Select suppliers of energy and utilities	2.1 Identify existing and potential suppliers of energy and utilities 2.2 Identify and consider environmental costs and benefits associated with supply in supply criteria 2.3 Establish and apply criteria for selection of suppliers 2.4 Select suppliers capable of meeting supply criteria 2.5 Review or develop contingency procedures in the event of failure of supply
3. Monitor energy and utility use against budget	3.1 Measure and record use of energy and utilities 3.2 Analyse usage patterns against performance standards and budget allocations 3.3 Identify, assess and implement cost-effective options for balancing the scheduling requirements for production with containment of energy and utility costs
4. Contribute to the more efficient use of energy and utilities	4.1 Identify energy and utility losses or sources of waste 4.2 Identify, investigate and report opportunities to improve efficient energy or utility application 4.3 Establish and review consultative mechanisms to support continuous improvement 4.4 Communicate information on energy efficiency, utility efficiency and related procedures to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Organise, evaluate and analyse ideas and information from a wide range of sources to determine energy usage requirements and efficiencies
Writing	Prepare documentation that explores complex issues for energy usage, constructed logically, succinctly and accurately

Skill	Description
Numeracy	Analyse and synthesise highly embedded mathematical information from a broad range of resources to determine energy usage, costs and targets

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPTEC5002 Manage utilities and energy for a production process	FDFTEC5002A Manage utilities and energy for a production process	Updated to meet Standards for Training Packages Minor changes to Performance Criteria for clarity	Equivalent unit

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPTEC5002 Manage utilities and energy for a production process

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Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that the individual has managed utilities and energy for at least one production process, including:

- determining utility and energy requirements and assessing current practices
- establishing supply options and conducting analysis to determine most efficient arrangements
- monitoring and evaluating utility and energy usage against targets
- identifying wastage or losses
- identifying, assessing and communicating opportunities for improving energy efficiencies.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- uses of energy and utilities in production, and units of measurement used to quantify energy and utilities
- procedures for mapping the uses of energy and utilities in production, including:
 - analysing historical data
 - sale or production forecasts to project energy and utility requirements
 - identifying patterns of usage, including volume and spread of load
- methods used to measure usage rates, including:
 - physical measurement instruments
 - measurement techniques used to track inputs to and outputs
 - units of measurement used to quantify energy and utilities
- suppliers of energy and criteria used to select them, including:
 - costs and capacity
 - contingency procedures in the event of failure of supplies

- elements of costs associated with supply, including tariffs, charges and peak demand and cost periods
- ability to spread load and risk by distribution to other suppliers and co-generation
- factors that affect the efficient use of energy and utilities
- consultative mechanisms to support continuous improvements
- techniques for assessing energy and utility usage rates of a given production facility to identify variances against budget or plans
- methods, equipment and operation for generating utilities for use on-site:
 - steam generation
 - other utilities appropriate to a given production facility
 - licensing and regulation requirements for boiler types
 - maintenance procedures and practices to minimise losses of steam, glycol or ammonia
 - procedures for shutting down plant and equipment
- configuration and design of the process and system to conserve and recycle energy and utilities, including:
 - steam
 - heat
 - water
- scheduling for efficient production, including:
 - existing energy and utility supply arrangements
 - dual objectives of production outcomes and efficient use of energy or utility
- energy conservation techniques, including:
 - lighting
 - air-conditioning
 - equipment standby
- procedures to develop proposals for utility improvement based on:
 - investigations
 - input from relevant technical specialists
- requirements for assessing and developing procedures to support efficient energy and utility utilisation in consideration of:
 - impacts on equipment
 - food safety
 - work health and safety
- communication strategies for changes to workplace systems and procedures to support improvements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a workplace setting or an environment that accurately represents a real workplace
- resources, equipment and materials:
 - monitoring equipment
- specifications:
 - energy and resource utilisation information, including recording systems, system requirements and procedures
 - details of contractual arrangements with suppliers
 - production scheduling requirements and systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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