



Australian Government

Department of Education, Employment and Workplace Relations

MTMPS5605C Manage utilities and energy

Release: 1

MTMPS5605C Manage utilities and energy

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify enterprise utilities and energy requirements, and to manage their use, control waste and control costs. Utilities and energy are a significant cost component in the production of meat and meat products. Their efficient use affects the quality of the product, costs and profits.
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Application of the Unit

Application of the unit	This unit is of particular interest to maintenance, engineering, production, environment and finance personnel working in a meat industry context. At this level individuals exercise considerable responsibility and accountability within enterprise structures and are required to make primary contributions to the values, goals and operations of the enterprise. They will typically have responsibility for the establishment and review of systems for the site or department. They may work with the assistance of external experts to develop plans and strategies.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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. Identify enterprise utility and energy requirements and costs	1.1. Utility and energy requirements for all areas and operations of the enterprise are identified consistent with workplace, customer and regulatory requirements. 1.2. Current utility and energy costs are measured and impact on profitability is identified. 1.3. Enterprise's future utility or energy requirements are determined consistent with enterprise goals and directions. 1.4. Utility and energy requirements and costs are included in all forward planning.
2. Monitor and control enterprise utility and energy use	2.1. Performance standards and indicators are established, using agreed benchmarks and best practice methods. 2.2. Team commitment to utility or energy management is developed using consultative approaches. 2.3. Systems for the accurate monitoring of utility and energy use and costs are developed. 2.4. Enterprise operations are audited to assess use, misuse and waste of utilities and energy. 2.5. Enterprise performance is monitored and systems and operations are adjusted or corrected. 2.6. Contingency plans for failure of utility or energy supply and service are prepared. 2.7. Workplace safety systems and procedures are updated to include requirements for safe use of utilities or energy.
3. Review performance and utility or energy costs	3.1. Strategies and/or procedures for more efficient use of utilities or energy and the minimisation of wastage are identified, evaluated and recommended. 3.2. Alternative utility or energy sources and services are assessed for availability, suitability for enterprise product, contribution to sustainability, operations and cost. 3.3. Appropriate utility or energy services are recommended and utility or energy supply conditions and charges negotiated. 3.4. Enterprise utility and energy performance is monitored and measured. 3.5. Performance information, including team feedback, is analysed and reported to stakeholders.

ELEMENT	PERFORMANCE CRITERIA
	3.6.Recommendations for further improvements are prepared and implemented.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Ability to:

- analyse utility or energy tariffs and charges and options available to the enterprise
- apply relevant **mathematical** and **communication** skills
- communicate effectively with internal and external personnel with diverse roles, communication skills and cultures to determine utility or energy requirements and use
- calculate and analyse enterprise utility or energy costs and their impact on production costs
- consult with personnel across the enterprise to identify and resolve utility or energy waste problems
- determine current and future utility or energy requirements for enterprise operations, including analysing company goals, conducting utility or energy audits to identify consumption patterns and inefficiencies, **measuring** enterprise utility or energy consumption and cost, including waste, against agreed benchmarks
- develop performance measures and indicators for utility or energy consumption and costs, based on benchmarks and enterprise goals
- develop strategies for minimising and optimising utility or energy usage, including assessing and monitoring equipment performance, introducing energy efficient plant and equipment, comparing sources and recommending utility or energy substitution, changes to procedures, and assessing and minimising non-working day use of utilities (e.g. lighting)
- evaluate, cost and recommend alternative plant, equipment, procedures and utility or energy sources to improve **efficiency**, including researching sources, reviewing enterprise procedures, evaluating suitable alternatives for enterprise products and operations, and calculating initial and maintenance costs and payback periods
- identify and apply relevant **Occupational Health and Safety (OH&S) requirements**
- include safety requirements of utility or energy use in workplace health and safety systems and procedures
- interpret and review performance information and recommend strategies for

REQUIRED SKILLS AND KNOWLEDGE

improvement

- manage utility and energy costs, including calculating current utility or energy charges, comparing and recommending supply sources and costs, monitoring utility or energy budget, determining the impact of changes in utility or energy costs on budgets and profitability and taking actions to correct budget variations
- prepare contingency plans relating to utility or energy supply failure and incidents, which include emergency and safety procedures, alternative supplies (e.g. co-generation) and communication strategies
- prepare strategies to spread utility or energy use to avoid supplier peak demand or cost periods
- prepare reports, resource proposals and recommendations in styles, formats and language appropriate for the audience
- present reports according to legal and enterprise requirements
- recommend utility or energy suppliers and negotiate supply and costs
- research best practice models in utility or energy assessment, planning, use and sustainability, and assess their applicability for the enterprise
- take action to improve own work performance as a result of feedback from others, self-evaluation, or in response to changed work practices and technologies
- utilise information and communications technology including budget and costing modelling software to analyse costs of alternative utility or energy management or purchase strategies.

Required knowledge

Knowledge of:

- principles and methods of heat transfer and how they impact on utility or energy use, waste and cost
- concepts of base load and variable load of utility and energy services
- principles of demand control, including co-generation or outage, and peak load shedding or shifting to minimise utility or energy costs
- steam generation process and its use as an energy source in the plant
- cost components related to the use of utility or energy including capital, purchase, replacement and maintenance costs for plant and equipment, payback periods and net utility or energy costs
- procedures and systems for measuring utility or energy use and waste, appropriate to the operations of the enterprise
- utility or energy supply **status** and sources available to the enterprise

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

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

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

Competency must be demonstrated through sustained performance over time, at an appropriate level of responsibility and authority under typical operating and production conditions for the enterprise.

Context of and specific resources for assessment

Assessment must be conducted in a workplace context under normal production and operating conditions.

Method of assessment

Recommended methods of assessment include:

- a third-party referee report of sustained performance at appropriate level of authority and responsibility
- assignment focusing on understanding and application of principles and theory to workplace operations
- simulation
- workplace projects with a focus on company environment and conditions.

Assessment practices should take into account any relevant language or cultural issues related to

EVIDENCE GUIDE

	Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

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.

Strategies for reducing ***costs*** of utility or energy supply may include:

- bulk purchasing alliances
- encouraging sustainability
- reducing use and wastage
- replacing external supplies with on-plant generation or co-generation (e.g. using wind and biogas methane) at lower cost or at suppliers' cost
- spreading use to avoid peak demand or cost periods through scheduling, computerised demand management systems
- substitution.

Workplace requirements may include:

- enterprise-specific requirements
- OH&S requirements
- Quality Assurance (QA) requirements
- Standard Operating Procedures (SOPs)
- sustainable work practices
- the ability to perform the task to production requirements
- work instructions.

Regulatory requirements may

- animal welfare
- commercial law, including fair trading and

RANGE STATEMENT	
include:	- trade practices • consumer law • corporate law, including registration, licensing and financial reporting • environmental and waste management • Equal Employment Opportunity (EEO), anti-discrimination and sexual harassment • Export Control Act • industrial awards and agreements • relevant state, territory and federal regulations regarding meat processing • taxation.
Benchmarks may be:	• industry benchmarks established through partnerships or base figures determined by the enterprise.
Utility and energy efficiency may relate to:	• characteristics of installed load • cost saving measures not directly related to plant performance (e.g. lighting and after hours use) • cost saving measures related to plant performance • sustainability, green, co-generations • tariffs.
Utility and energy wastage and inefficient use may be caused by:	• equipment not suitable for the job • equipment running unnecessarily • equipment used constantly • inefficient equipment • poor maintenance of equipment, operating systems • poor procedures.
Utilities and energy services and supply may be contestable or non-contestable and include:	• coal and wool • electricity (e.g. on site generation, such as wind, oil or diesel, co-generation, hydro, and gas or coal generated) • fuel oil, distillate and petrol • gas (natural and bottled) • telecommunications • water and steam.
Stakeholders may include:	• company owners, directors, shareholders and financiers • competitors

RANGE STATEMENT	
	• management and employees • suppliers, customers and consumers • unions and employer associations.
Mathematical skills may relate to:	• technical and financial modelling • calculations • interpretation • analysis • complex actual and hypothetical mathematical information, such as: • complex and relate to product and product quality • financial operations • personnel • operations • sales and turnover • exports.
Communication may:	• be with culturally, ethnically and socially diverse individuals and groups • involve preparation of reports which may be complex, contain information from a range of technical sources and include mathematical and graphic information and data • involve reading and interpreting workplace documentation • occur in a variety of sensitive, conflictive, collaborative and supportive environments • be formal or informal and involve face-to-face and technological/electronic methods • require analysis and presentation of complex concepts, technical information, mathematical information and other data in simple or complex formats • require persuasion, negotiation and assertiveness skills.
Strategies and measures for measuring use and waste may include:	• cubic metres per tonne hot carcase weight or equivalent cattle weight • departmental meters • inflow and outflow comparisons • litres per kilogram hot carcase weight or equivalent cattle weight • unit of utility or energy per (tonne) dressed

RANGE STATEMENT	
	- carcase weight - unit of utility or energy per kilogram processed, manufactured or prepared product - water (e.g. m³, cost per tonne hot carcase weight HCW, m³, cost per kg of processed, manufactured or prepared product.
OHS requirements may include:	- enterprise OH&S policies, procedures and programs - OH&S legal requirements - Personal Protective Equipment (PPE) which may include: - coats and aprons - ear plugs or muffs - eye and facial protection - head-wear - lifting assistance - protective boot covers - protective hand and arm covering - protective head and hair covering - uniforms - waterproof clothing - work, safety or waterproof footwear - requirements set out in standards and codes of practice etc.
Utility or energy supply status may include:	- contestable suppliers - sole supplier - supplier and purchaser (buy enterprise generated surpluses).

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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